

# Link View NVR4

## NVR 4 channels

### User Guide



*Please find the latest version of the manual and firmware at [www.linkcom.fr](http://www.linkcom.fr)*

## INSTRUCTION MANUAL

To obtain the best performance and ensure device function correctly, please read this instruction manual carefully and completely.

### FCC Compliance

**USER-INSTALLER CAUTION:** YOUR AUTHORITY TO OPERATE THIS FCC VERIFIED EQUIPMENT COULD BE VOIDED IF YOU MAKE CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE TO PART 15 OF THE FCC RULES.

**NOTE:** THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS A DIGITAL DEVICE, PURSUANT TO PART 15 OF THE FCC RULES. THESE LIMITS ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST HARMFUL INTERFERENCE WHEN THE EQUIPMENT IS OPERATED IN A COMMERCIAL ENVIRONMENT. THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS.

OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE HARMFUL INTERFERENCE IN WHICH CASE THE USER WILL BE REQUIRED TO CORRECT THE INTERFERENCE AT HIS OWN EXPENSE.

**THIS CLASS A DIGITAL APPARATUS MEETS ALL REQUIREMENTS OF THE CANADIAN INTERFERENCE-CAUSING EQUIPMENT REGULATIONS.**



### WARNINGS, CAUTIONS & COPYRIGHT

#### WARNINGS



TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MISTURE.

DO NOT INSERT ANY METALLIC OBJECT THROUGH VENTILATION GRILLS.

#### CAUTION

	<b>CAUTION</b> RISK OF ELECTRIC SHOCK DO NOT OPEN	
<p>CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK. DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.</p>		

#### Explanation of Graphical Symbols

	The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of insinuated "dangerous voltage" within the products enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.
	The exclamation point within an equilateral rhombus is intended to alert the user to the presence of important operating and maintenance (servicing) instruction in the literature accompanying the product.

USERS OF THE SYSTEM ARE RESPONSIBLE FOR CHECKING AND COMPLYING WITH ALL FEDERAL, STATE, AND LOCAL LAWS AND STATUTES COIPCERNING THE MONITORING AND RECORDING OF VIDEO AND AUDIO SIGNALS. LINKCOM SHALL NOT BE HELD RESPONSIBLE FOR THE USE OF THIS SYSTEM IN VIOLATION OF CURRENT LAWS AND STATUTES.

#### COPYRIGHT

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## 1 INTRODUCTION

### 1.1 FEATURE

- Support 4-channel IP cameras input.
- Support H.264 / MJPEG decoding.
- Real-time Display & Playback.
- Support 5 Megapixel IP Camera for each channel.
- Support HDDs x4
- Support e-SATA interface
- Support HDMI Video interface .
- Audio Backup for all channels
- Graphic User Interface ( GUI ).
- Support time-point backup function under Ethernet remote control mode. User can select any time period to process backup from remote side.
- Support time-search & event-search function under Ethernet remote control mode.
- Up to four online clients for independent remote control; individual live-time, play-back & time-search function available
- Support PPPoE/ Static/ DHCP IP & DDNS.
- Powerful mobile surveillance function, support i-Phone & Android

### 1.2 SPECIFICATION

MODEL		4CH NVR
System		
OS		Embedded Linux
connector	Ethernet	RJ-45, 10/100/1000 Mbps x1
	VGA output	D-SUB output
	HDMI output	HDMI output
	USB 2.0	Front : 2 ports
Power		DC-12V, 5A
Video and Audio		
Video input		4 channels
Audio input		4 channels
NVR Functions		
Camera Name		Max. 20 characters
Screen Split Control		1, 4,
Image Control		Contrast / Brightness / Saturation / Hue

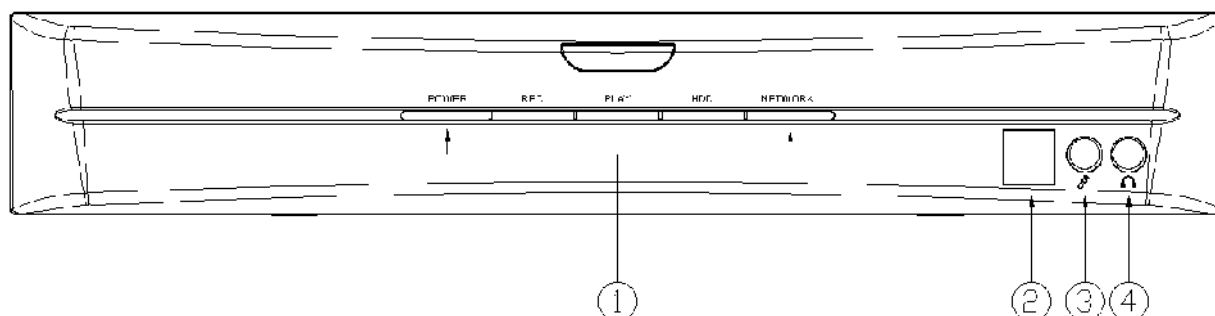
<b>Recording mode</b>	Manual / Schedule / Alarm
<b>Pre Recording</b>	1~5 sec
<b>Watermark</b>	Support
<b>Searching and Playback</b>	
<b>Search Method</b>	Date / Time / Event
<b>Date/ Time / Event Search</b>	Selectable on the calendar
<b>Log Search</b>	Through the log data to find the video event / time
<b>Backup Type</b>	USB
<b>Remote Client Software</b>	
<b>Monitoring Environment</b>	Link View for iPhone / iPad /Android, Web site
<b>IP cam Live View</b>	4 Channels
<b>Remote Search</b>	Web site remote time / event search
<b>System Monitoring and Recovery</b>	
<b>Monitoring</b>	Watchdog
<b>Alarm</b>	
<b>Alarm Input</b>	4 inputs
<b>Alarm output</b>	1 outputs
<b>Peripheral Devices</b>	
<b>Audio in</b>	3.5 Ø Earphone stereo jack
<b>Audio out</b>	3.5 Ø Earphone stereo jack
<b>RS 485</b>	2- pin terminal
<b>STORAGE &amp; BACKUP DEVICE</b>	
<b>INTERNAL HDD SUPPORT</b>	SATA HDD x 4
<b>EXTERNAL USB BACKUP DEVICE (PAN DRIVE, HDD, BURNER)</b>	USB x2
<b>E-SATA</b>	x1
<b>RAID</b>	N/A
<b>Networking</b>	
<b>Type</b>	Static/ DHCP/ PPPoE/DDNS
<b>Environment</b>	
<b>Operating Temp.</b>	0 - 45 °C / 32~113 F
<b>Humidity</b>	0~80% RH (non-condensing)

Language	
Type	English / Traditional Chinese / Simple Chinese / Russian / Italian / Japanese / Czech / France / Germany / Spanish / Portuguese
Physical	
Dimensions (W x H x D)	360 x 60 x 311 mm
Weight	4 KG



\* SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE

## 2 HARDWARE OVERVIEW

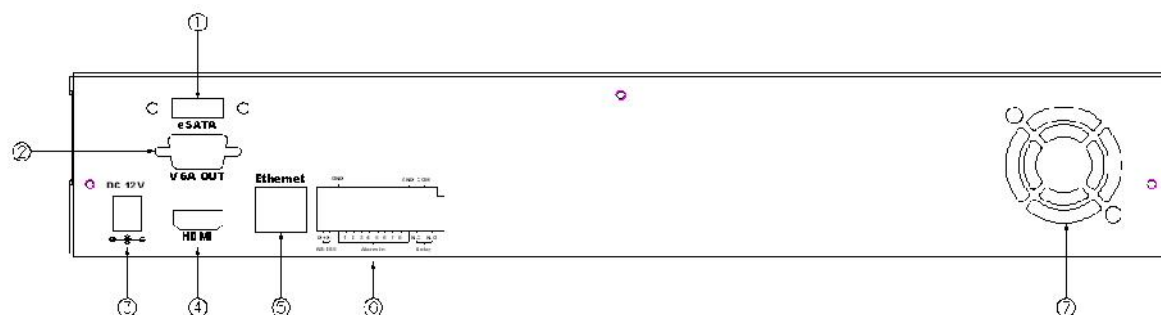
### 2.1 FRONT PANEL



### NVR OPERATION

NO.	LABEL	OPERATION
1	LED	Led Indicator
2	 / 	USB Connector/ USB Mouse Connector
3	MIC IN	Microphone input(Phone Jack)
4	AUDIO OUT	Earphone output(Phone Jack)

## 2.2 BACK PANEL



NO.	LABEL	OPERATION
1	<b>E-SATA</b>	E-SATA interface
2	<b>VIDEO OUT (VGA)</b>	Connect to LCD monitor
3	<b>POWER</b>	Connect to power adapter (AC 12V/5A)
4	<b>VIDEO OUT (HDMI)</b>	HDMI video output
5	<b>ETHERNET</b>	RJ-45 connector
6	<b>ALARM IN/ RELAY OUT/ RS-485</b>	8 alarm in/ 1 relay out/ RS485
7	<b>FAN</b>	The fan louvers




## 2.3 CAMERA & MONITOR LOOPING

Here recommend link cameras by sequence to avoid unexpected image broken, from CH1, CH2, CH3, CH4.....


## 2.4 ALARM TRIGGER

There are four types of alarms: Motion detection, Video Loss Alarm, External Alarm, and Digital Input from Camera. Following are the possible action when alarm is triggered. Every action is configurable (Ex. the screen display pattern, the buzzer triggered time.etc) and will be explained in the later chapter.


### A. When Motion detection happens:

- a. The live screen pattern can be switch to single channel screen or split screen.
- b. Built-in buzzer or external relay can be triggered.
- c. Alarm timepoint can be recorded in the event list, and you can search for the event in playback.
- d. On the channel which the alarm triggered, the icon  pops up to remind the user.
- e. The pre/ post-alarm recording video can be sent to e-mail/ uploaded to FTP.
- f. CGI can be sent to an http server.

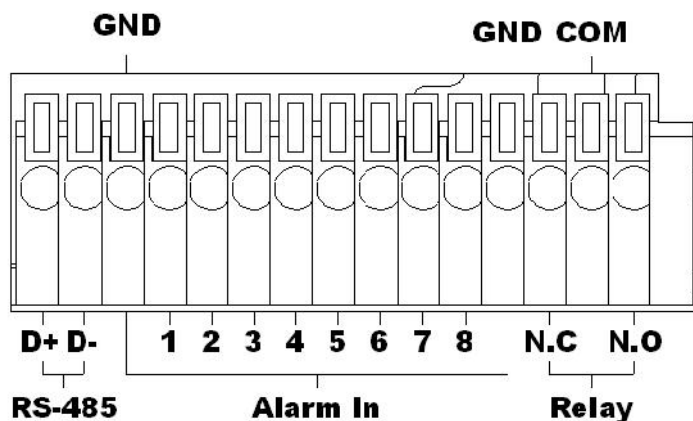
### B. When External Alarm or Digital Input from Camera happens:

- a. Built-in buzzer or external relay can be triggered.
- b. Alarm timepoint can be recorded in the event list, and you can search for the event in playback.
- c. On the channel which the alarm triggered, the icon  pops up to remind the user.
- d. The pre/ post-alarm recording video can be sent to e-mail/ uploaded to FTP.
- e. CGI can be sent to an http server.

### C. When Video Loss Alarm happens:

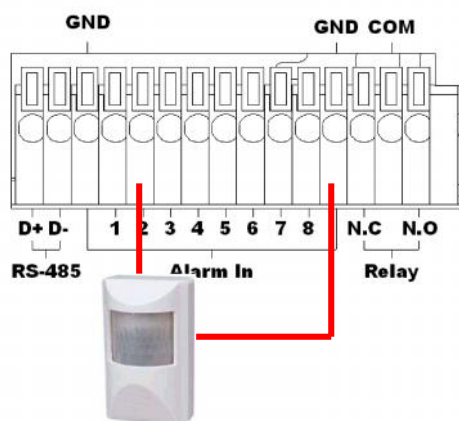
- a. Built-in buzzer or external relay can be triggered.
- b. Alarm timepoint can be recorded in the event list, and you can search for the event in playback.
- c. On the channel which the alarm triggered, the icon  pops up to remind the user.
- d. CGI can be sent to an http server.

### D. Alarm in connector

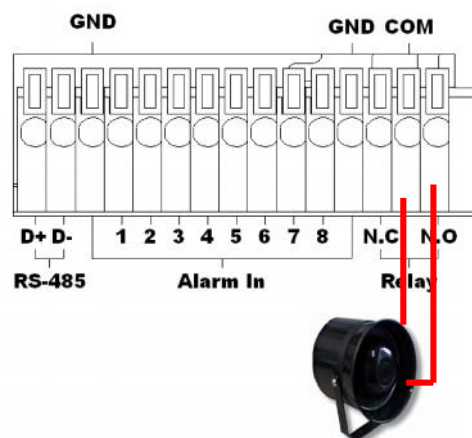


D+	RS-485: sends +/ receives +
D -	RS-485: sends -/ receives -
GND	Ground
ALARM IN 1-8	Alarm input
N.C	Relay: Normally close
N.O	Relay: Normally open
COM	Relay: Common

EX1 : Connect GND & Alarm to external IR detector.



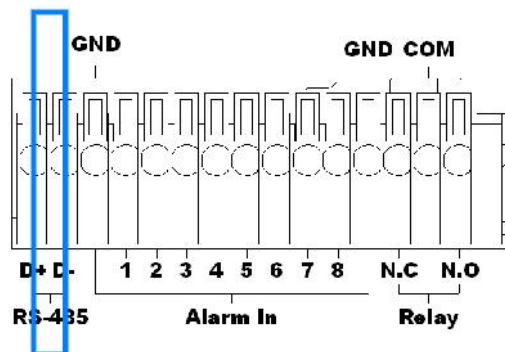
EX2 : Connect N.O & COM to external siren.



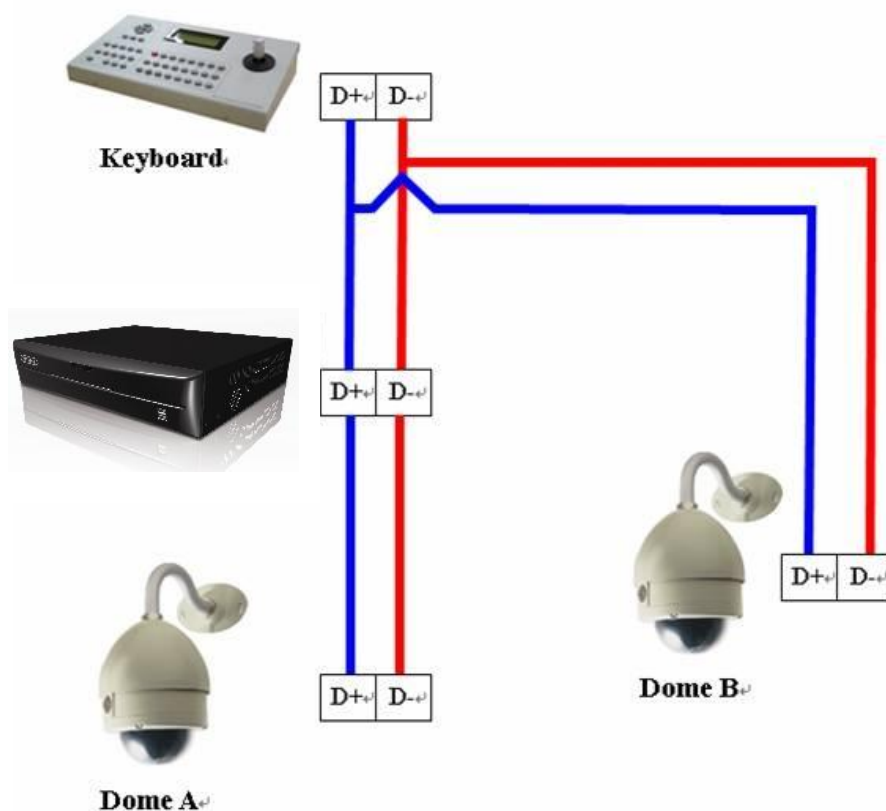
Depending on the external device type,  
You may connect N.C & COM to external device.

## 2.6 PTZ (PAN, TILT AND ZOOM) CAMERA

Following diagram for NVR connect between PTZ camera & joystick controller, for NVR to control PTZ camera please make sure the CAMERA ID, BANDRATE (default at 9600 bps) and RS-485 cable.



Under “Two Core” connection, controller can control speed dome without integrated protocol into NVR. Moreover, one keyboard can connect MAX 256 units of speed dome.



### 3 SYSTEM SETUP

#### 3.1 MENU SETUP INTERFACE(GUI)



##### A. CAMERA SETUP



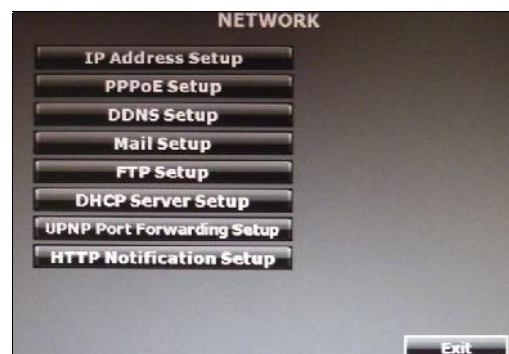
##### B. RECORD SETUP



##### C. ALARM SETUP



##### D. NETWORK SETUP



## E. AUTHORITY SETUP

**AUTHORITY**

- ☒ HDD Format (Require Password Confirmation)
- ☐ Anonymous User Login
- ☐ Password Protection
- ☐ Keyboard Lock
- ☐ Auto log out after the menu is closed

**User Management**

**Save** **Cancel**

## F. DISK MANAGEMENT

**DISK**

- Overwrite Mode: OFF
- Hard Disk Full Warning: 20%
- Auto Deletion: ON
- Reserve Day: 1

**Storage Information** **Format HDD**

**Save** **Cancel**

## G. SYSTEM SETUP

**SYSTEM**

- NVR Name: HNR
- NVR ID: 0
- Language: English
- Date Format: YYYY-MM-DD
- Version: K1104-V1.0.04

**Software Update** **Configure Setup**

**Time Setup** **Daylight Saving Time**

**Status Display Setup** **Monitor Adjust**

**Save** **Cancel**

## H. EXIT

### 3.2 LIVE VIEWING AND POP-UP MENU



**NOTE :** The pop-up menu can be activated by moving the mouse cursor to the bottom of the live viewing screen.

#### A. GUI MENU BAR

With live viewing mode, press this button to get into the GUI menu.



#### B. DISPLAY CONTROL

Within live-viewing or playback mode, use display control to switch the camera channel.

#### C. AUTO SWAP

Press it to start auto swap. The interval depends on the setting in IPCam Image Setup when it's on single channel view. For split screen the switch dwell interval is 5 sec.

#### D. PTZ CONTROLLER

Within live-viewing mode, Clicks this button to get into the PTZ setup menu. User can right-click the button of the mouse to exit PTZ Setup.

**NOTE :** Only for the camera supported PTZ function.



## PTZ CONTROL

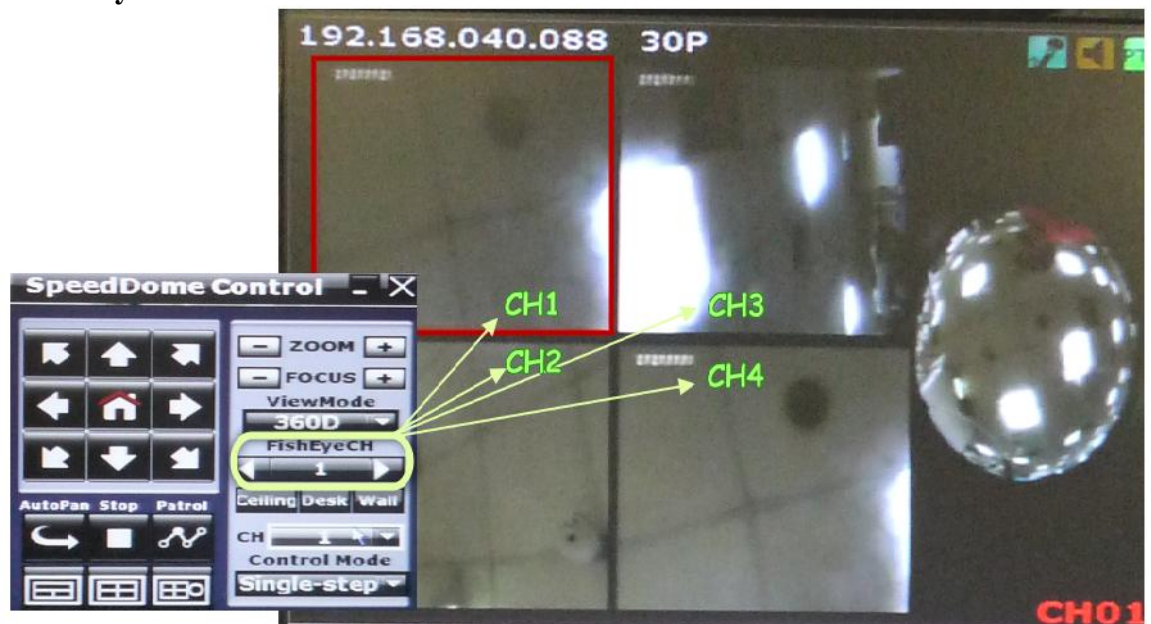


Press the minimization icon then the control panel becomes smaller:



Move the mouse and the arrow will follow the mouse and change direction. In this mode user can click on the live view to control direction instead of the direction key on control panel.

If a fisheye camera is connected:



### E-PTZ Steps:

- (1) Select the channel number you want to setup, if there are several ones.
- (2) Select the View Mode, 360 degree or 180 degree.
- (3) Select the camera location, ceiling, desk, or wall.
- (4) Select split screen pattern



: 360 degree panorama view + sub screens x4



: 180 degree flat view + sub screens x2



: sub screens x4

- (5) After you decide the screen pattern, use the fisheye channel list to select one of the sub screens. (as the green circle on the picture above). The selected one will be indicated in a red frame.
- (6) For the selected sub screen, use the 4-direction arrows and the “+” (zoom in) ”-” (zoom out) icon for E-PTZ control.
- (7) Control Mode: Select the E-PTZ moving mode, step by step or continuous.
- (8) The AutoPan, Stop, and Patrol buttons are invalid here if the fisheye camera doesn't support those function.



#### **E. DISK INFORMATION**

With live viewing mode, press this button to display disk information.



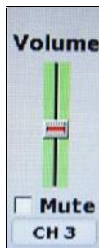
#### **F. DIGITAL ZOOM**

In the live full screen mode, left-click the button of the mouse to pull a range to zoom in or zoom out the image. User can right-click the button of the mouse to disable this function. (NOTE: Using the mouse to operate digital zoom can zoom in to max. 16 times.) Moreover, user can also use ZOOM key on the front panel to perform this function. (First, click ZOOM Key and then click key to select zoom in or zoom out position. Finally, click ENTER key to complete the setting. Moreover, click ZOOM Key again can disable digital zoom function. Using the panel key to perform zoom in function is fixed at 2 times.)



#### **G. AUDIO VOLUME**

Press this button, and the audio volume control board will pop up.



#### **H. BOARDCASTING**

Press the bottom to enable or disable the one way audio. You can use microphone to speak simultaneously to all the channels.

#### **I. FULL SCREEN**

Press the bottom for full-screen mode.




#### **J. RECORD AND PLAYBACK CONTROL**



Same as front panel controller and remote controller.



#### **K. SOUND INPUT/ SOUND OUTPUT / PTZ CONTROL**

There are little icon on the right top of the live vide of every channel. Click  to



enable the two ways audio. Click  to enable the sound output. Click  to PTZ call out the control board. Note that if those functions are not support by the camera linked, you will not see the corresponding icons.

The sound options do not affect the audio recorded into playback video. As long as the audio setup is enabled, the playback video includes audio even the sound output here is turned off.

## L. RECORDING STATUS

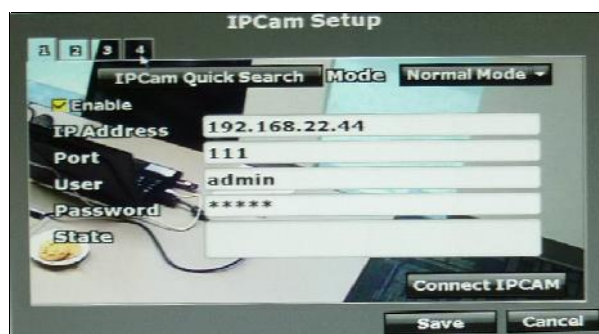
Beneath the date and time, it displays the current recording type:

Record mode: Schedule – NO REC period	2012/10/15 MON 13:46:22   X   1%
Record mode: Schedule – ALARM REC period Record mode: Alarm trigger	2012/10/15 MON 13:46:47   A   1%
Record mode: Manual – Stop Recording	2012/10/15 MON 13:52:35 1%
Record mode: Schedule – FULL REC period Record mode: Manual – Recording	2012/10/15 MON 13:47:14 REC 1%

### 3.3 CAMERA SETUP



#### A. IPCam Setup



##### A-1. IPCam Quick Search



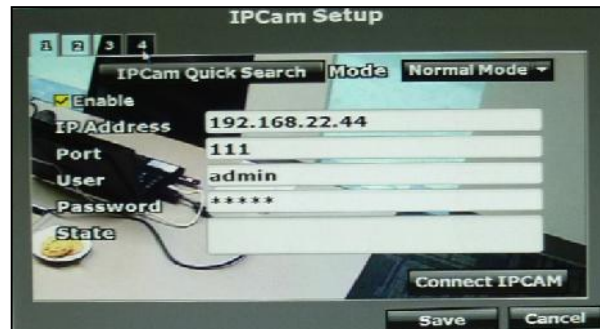
NVR can search for the IP devices under the same domain with NVR.

Click the IPCam in the list to add it to NVR channel.

If you want to revise the IP setting of a camera, click “Edit”:

The IPCam has to be under the same LAN with NVR in order to connect successfully. Ex. If NVR IP address is 192.168.10.33, IP Cam IP address should be 192.168.10.X. You can edit IP Cam IP address here or on the IP Cam.

a. Normal Mode



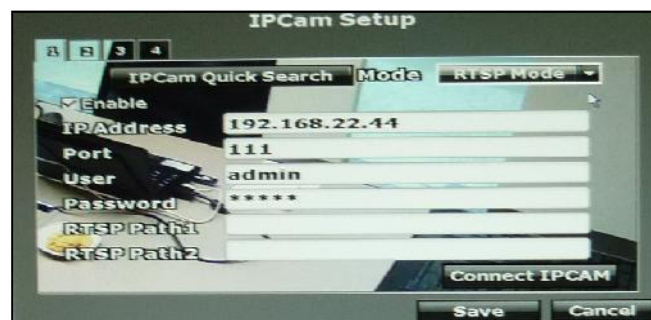
Enable this channel. Key in the IP address, port, username, and password of the device you prepare to connect. You can find the information on the IP Cam.

Click the “connect IPCAM” button, the message will show in “State” column to tell you whether connection succeeds or not.

Note: To the camera connected via ONVIF protocol, the PTZ control function is not supported.

b. RSTP Mode

Under RTSP Mode, the NVR only support the IP address indication, the live video, and video recording. Other functions like motion detection are not supported.



Key in the IP address, port, username, and password of the device you prepare to connect. You can find the information on the IP Cam.

To link to the IP camera, check the RTSP Path settings of your IP camera, and key in the corresponding values of two streams in “RTSP Path 1” and “RTSP Path 2”.

## NVR Setting

**Camera Setup**

Camera Quick Search Mode RTSP Mode

☐ Enable

IP Address: 192.168.22.52

Port: 554

User: admin

Password: \*\*\*\*\*

RTSP Path: v2

RTSP Path: v2

Connect Camera

Save Cancel

## IPCAM Setting

**Streaming 1 Setting**

☒ Basic Mode ☐ Advanced Mode

Resolution: 1280x800

Quality: Best

Video Frame Rate: 30 FPS

Video Format: H.264

RTSP Path: v2

**Streaming 2 Setting**

☒ Basic Mode ☐ Advanced Mode ☐ Close

Resolution: 640x480

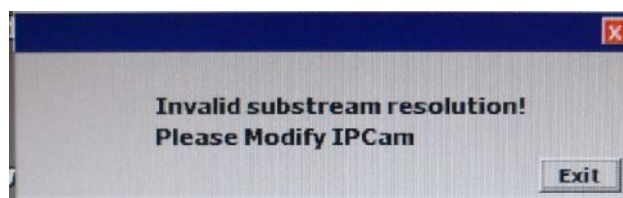
Quality: Standard

Video Frame Rate: 30 FPS

Video Format: JPEG

RTSP Path: v2

Note: When you select RTSP mode, make sure the substream resolution of camera is VGA(640x480). Or you will receive the warning message when you try to connect with the camera:



Here we lists some RTSP setting for sample:

RTSP Path 1 (IPCam Main stream)	RTSP Path 2 (IPCam Sub stream)	Result
1920 x 1080	640 x 480	OK. NVR takes 1920x1080 streaming for single channel view, and 640x480 streaming for split screen.
1920 x 1080	N/A (Fill in nothing on "RTSP Path 2")	Error Message: "Invalid Substream Resolution! Please modify IPCam." NVR takes 1920x1080 streaming for both single channel view and split screen. However, it can only allow 640x480 resolution for split screen, so it shows error in return.
640 x 480	N/A (Fill in nothing on "RTSP Path 2")	OK. NVR takes 640x480 streaming for both single channel view and split screen.
N/A (Fill in nothing on "RTSP Path 1")	640 x 480	OK. NVR takes 640x480 streaming for both single channel view and split screen.

640 X480	1920 x 1080	OK. NVR takes 1920x1080 streaming for single channel view, and 640x480 streaming for split screen.
1920 x 1080	1920 x 1080	Error Message: "Invalid Substream Resolution! Please modify IPCam." NVR takes 1920x1080 streaming for both single channel view and split screen. However, it can only allow 640x480 resolution for split screen, so it shows error in return.

### c. ROI

This function allows users to set up the channel as an attached channel. An attached channel is based on a normal/ RTSP channel has been set up, and can display the same live view as the normal/ RTSP channel. The attached channel is not physically linked to any camera, so it doesn't increase the bandwidth loading. Users cannot do camera setup (like motion detection or image adjustment) on attached channel.



1. Enable: Choose "ROI".
2. Attached Channel: Select a connected normal/ RTSP channel in the drop-down menu.
3. Ratio: Use the arrows to adjust the zoom ratio, and press the red frame to drag it to the area that you want it to show on the live view screen.

**A-2. Connect IPCAM :** After insert the IPCAM related information, click this button to test the connection circumstances.

## B. IPCam Video Setup





### B-1. Resolution

Click drop down list to change the resolution of connecting device.

### B-2. Quality

Click drop down list to change the image quality.

For H.264 IPCam above 1 Megapixel, the resolution options support “4Mbps, 3Mbps, 2Mbps, 1.5Mbps, 1Mbps”.

For H.264 IPCam less than 1 Megapixel, the resolution options support” 2Mbps, 1.5Mbps, 1Mbps, 512Kbps, 256Kbps”

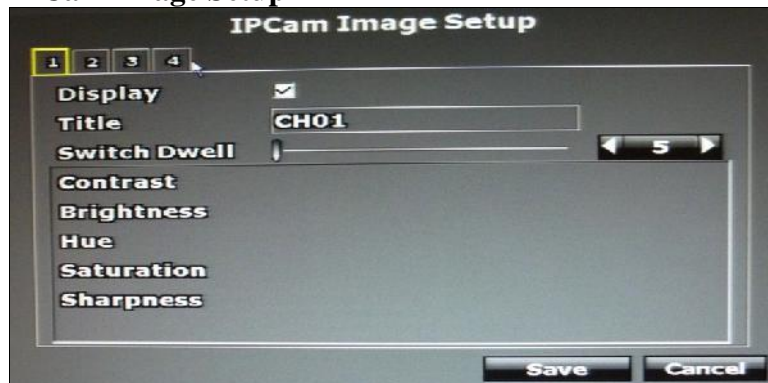
For MPEG IPCam, the resolution options support “Standard, Medium, Low”.

(The highest resolution option is “standard” due to the chip performance limits of IPCam)

### B-3. FrameRate

Click drop down list to change the frame rate of connecting device.

## C. IPCam Image Setup



### C-1. Display

Use the mouse to enable or disable the camera display on the screen or not.

### C-2. Title

Use the mouse to setup the title of connecting IP device.

### C-3. Switch Dwell

Press or to change auto switch second. The value is between 0~99 sec.

### C-4. Contrast

Press or to change contrast level. The adjustment value is between 0~255

### C-5. Brightness

Press or to change brightness level. The adjustment value is between 0~255

### C-6. Hue

Press or to change hue level. The adjustment value is between 0~255

### C-7. Saturation

Press or to change saturation level. The adjustment value is between 0~255

### C-8. Sharpness

Press or / mouse wheel to change sharpness level. The adjustment value is between 0~15

## D. Motion Setup



### D-1. Buzzer Dwell

Press or to change the buzzer time or disable buzzer function.

### D-2. Area1 Sensitivity

Press or to change the sensitivity of setup motion area in Area1. Click “Motion Area Setup” and drag a blue area for motion detection.

### D-3. Area2 Sensitivity

Press or to change the sensitivity of setup motion area in Area2. Click “Motion Area Setup” and drag a green area for motion detection.

### D-4. Area3 Sensitivity

Press or to change the sensitivity of setup motion area in Area3. Click “Motion Area Setup” and drag a red area for motion detection.



After dragging an area, right-click the mouse, select “Exit with saving” to complete the area setup.

Select “Enable All” to set up global motion detection.

Select “Clean All” to clean the area of the current color in the view.

Select “Exit Without Saving” to go back to motion setup menu and the setting you just changed will not be saved.

## E. Mask Setup



The masked area will not show on the live video and video playback.

### E-1. Area1

Tick the “Area1” box and click “Area Setup” to drag a blue area for masking.

### **E-2. Area2**

Tick the “Area1” box and click “Area Setup” to drag a green area for masking.

### **E-3. Area3**

Tick the “Area1” box and click “Area Setup” to drag a red area for masking.



After dragging an area, right-click the mouse, select “Exit with saving” to complete the area setup.

Select “Enable All” to set up global masking.

Select “Clean All” to clean the area of the current color in the view.

Select “Exit Without Saving” to go back to mask setup menu and the setting you just changed will not be saved.

## **F. Audio Setup**

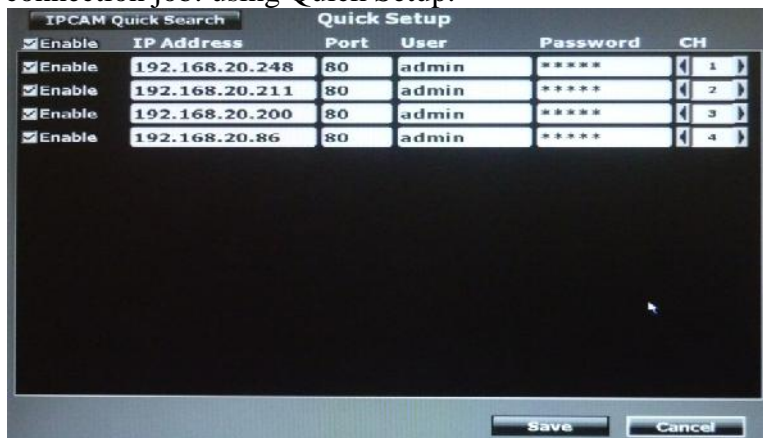
The channel ticked means the sound from camera will be recorded into the playback video. Vice versa. No sound will be recorded in the playback video of the channel which is not ticked.





## G. Quick Setup

Other than “IPCAM Setup”, you can choose another way to complete the IP camera connection job: using Quick Setup.

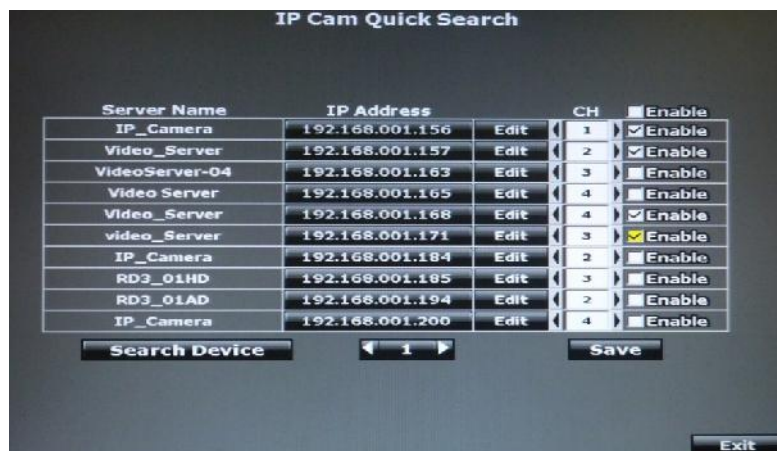


### G-1 Key in information manually

Here is the all-channel list. You can key in the IP address, port, and user name & password of the IP camera, and then assign the channel number. Tick “Enable” to connect with the IP camera.

### G-2 IPCAM Quick Search

With Quick Search, you need not type the IP address. Click “IPCAM Quick Search” to enter the search menu.



The machine searches for all the IP devices under the LAN and list here. Find the IP camera you want to connect with, assign a channel number for it, and tick “Enable” so that this IP camera will be added to the all-channel list. Back to the all-channel list, you can key in the user name and password, and tick “Enable” to connect with the camera.

If you want to revise the IP setting of a camera, click “Edit”:

The IPCam has to be under the same LAN with NVR in order to connect successfully. Ex. If NVR IP address is 192.168.10.33, IP Cam IP address should be 192.168.10.X. You can edit IP Cam IP address here or on the IP Cam.



### 3.4 RECORD SETUP

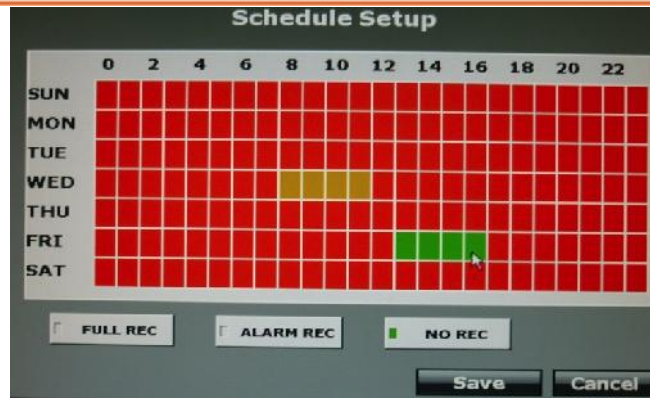
#### A. Pre-Alarm Record Time / Post-Alarm Record Time

Pre-alarm record means the recording before alarm is triggered; post-alarm record means the recording after alarm is triggered. If you set 5 sec for pre-alarm and 5 sec for post-alarm, the alarm recording length will be total 10 sec.

#### B. Record Mode

The record mode will be applied to all channels simultaneously. When recording, NVR record both main streaming and sub streaming from IPCam. Use the drop down list to switch the recording mode.

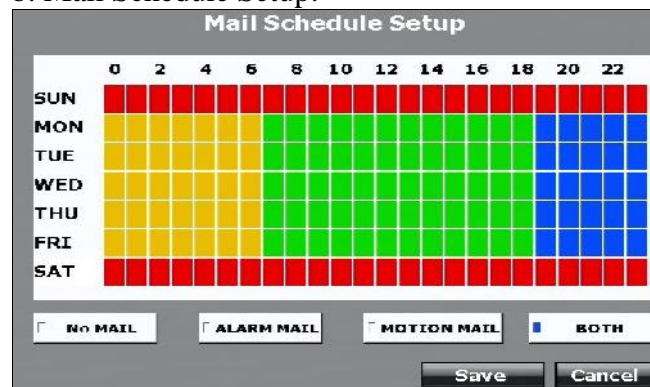
1. **Manual:** Click  to start recording. Click  to stop recording.
2. **Schedule:**
  - a. Schedule Setup:



Click the tag “Full Recording”(Red) / “Alarm Recording”(Yellow) / “No Recording”(Green), and then draw on the calendar. The recording type will follow the schedule.

The tag “Alarm Recording” includes all alarm type.

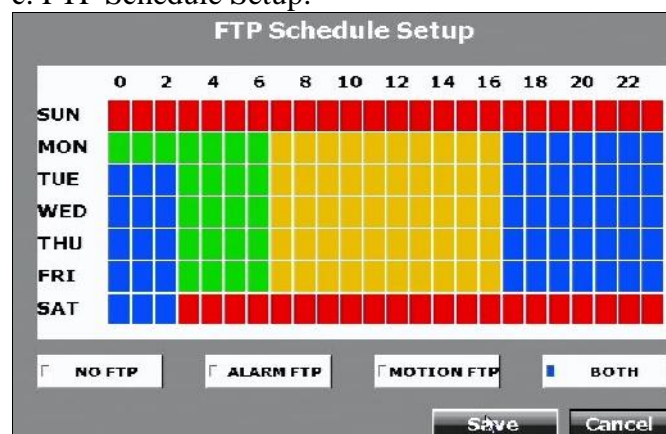
b. Mail Schedule Setup:



Select the time that the recording video is sent to the mail address. No mail will be sent during “NO MAIL” time period even the motion detection is triggered.

The tag “ALARM MAIL” refers to both external alarm and digital input(IPCAM).

c. FTP Schedule Setup:



Select the time that the recording video is upload to FTP. No file will be uploaded during “NO FTP” time period even the motion detection is triggered.

The tag “ALARM FTP” refers to both external alarm and digital input(IPCAM).

3. **Alarm Trigger:** Start recording when any type of alarm event happen. The recording video length is according to the setting of “Pre-Alarm Record Time” and “Post-Alarm Record Time”.

### C. Mobile Streaming Setup

Select "ON" to record the streaming for mobile viewing.



**Mobile Streaming Setup**

Mobile Record OFF  
ON

**Save** **Cancel**

### 3.5 ALARM SETUP



#### A. Alarm Trigger Setup



##### A-1. Alarm Auto Switch

Use the drop down list to switch the alarm auto switch. When the alarm is triggered, the screen will switch to full screen, split screen (4CH split screen) or disable.

##### A-2. Video Loss Detection

Use the drop down list to switch the video loss detection. When the video loss is detected, the alarm will trigger.

##### A-3. Digital Input (IPCam)

Use the drop down list to switch on /off the Digital Input from IP camera. When the DI signal is received from camera, the alarm will be triggered.

##### A-4. Ext. Alarm Detection

Use the drop down list to switch the external alarm detection. When the external alarm is detected, the alarm will be triggered.





##### A-5. Ext. Alarm Mode

Use the drop down list to switch the external alarm mode. If the external alarm is setup for normal open, the option has to switch to N.O.; in contrast, the option is setup in N.C.

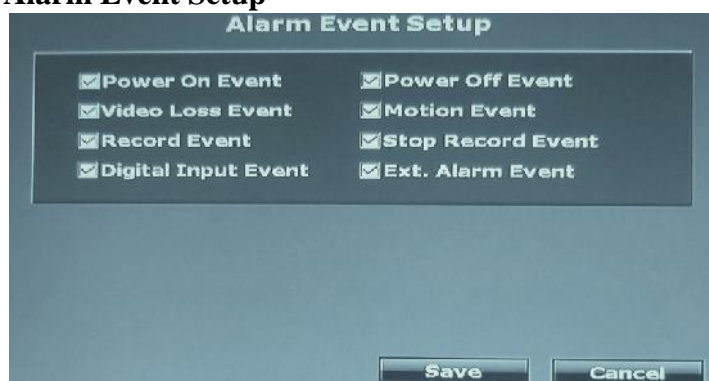
#### B. Alarm Output Setup





This control item separates into two parts, “Buzzer Time” and “Relay Time”. User can press  or  to switch the external buzzer time and video loss buzzer time in “Buzzer Time” option. The adjustment value is from 5 to 99 seconds. Moreover, among “Relay Time” option, the user can press  or  to switch the external buzzer time and video loss buzzer time. The adjustment value is from 5 to 99 seconds as well. The Value of Ext. Alarm Buzzer / Relay Time determine the buzzer / relay time of both external alarm in and digital input (IPCam).

### C. Alarm Event Setup







When the selected events are happened and triggered, the log will be recorded in the event playback list, and you can use event search in playback to find them.

### D. Alarm Action and Trigger Condition List

Action \ Type	Motion detection	External Alarm	DI (IPCAM)	Video Loss
<b>Necessary Condition</b> (All the action below can only be execute when necessary condition is met.)	Camera Setup >> Motion Setup >> Tick "Area 1/2/3" and set up the area	Alarm Setup >> Alarm Trigger Setup >> "Ext. Alarm Detection" set to "Enable"	Alarm Setup >> Alarm Trigger Setup >> "Digital Input (IPCam)" set to "Enable"	Alarm Setup >> Alarm Trigger Setup >> "Video Loss Detection" set to "Enable"

Action \ Type	Motion detection	External Alarm	DI (IPCAM)	Video Loss
<b>Switch to Single Channel Screen / Split Screen</b>	<b>Condition:</b> Alarm Setup >> Alarm Trigger Setup >> "Alarm Auto Switch" set to "Full Screen(/Split Screen)"	X	X	X
<b>Trigger Relay/ Buzzer</b>	<b>Condition:</b> Camera Setup >> Motion Setup >> "Relay(/Buzzer) Dwell" not set to "Off"	(It's enabled as long as Necessary Condition is meet) *p: Trigger length setting: Alarm Setup >> Alarm Output Setup >> Relay(/Buzzer) Time *p: "Ext. Alarm Relay(/Buzzer) Time" length setting determines the trigger length of both "External Alarm" and "DI(IPCAM)"		

<b>Written in Log</b> <b>(Can be used for event search playback)</b>	<b>Condition:</b> Alarm Setup >> Alarm Event Setup >> Tick "Motion Even" / "Ext. Alarm Eventt" / "Digital Input Event" / "Video Loss Event"
<b>Icon on Live Screen</b>	   

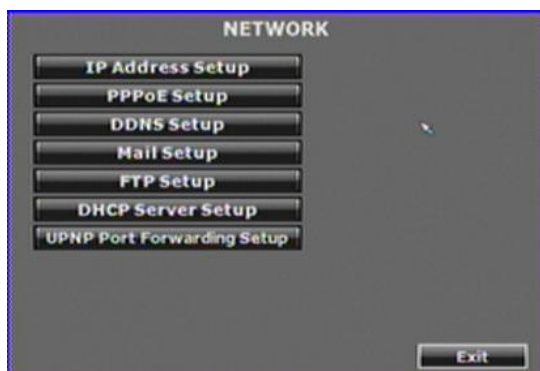
Action \ Type	Motion detection	External Alarm	DI (IPCAM)	Video Loss
Pre- / Post-alarm Recording	O			Pre-:O Post-:X
Send E-mail / Upload to FTP with Pre-/ Post-alarm Recording (*p[1])	<p>Condition 1: Network Setup &gt;&gt;Mail(/FTP) Setup &gt;&gt;Tick "Motion(/Alarm)"; And Record Setup &gt;&gt;"Record Mode" set to "Manual"; And it's on recording when alarm is triggered</p> <p>Condition 2: Network Setup &gt;&gt;Mail(/FTP) Setup &gt;&gt;Tick "Motion(/Alarm)"; And Record Setup &gt;&gt;"Record Mode" set to "Alarm Trigger"</p> <p>Condition 3: Record Setup &gt;&gt;"Record Mode" set to "Schedule"; And Record Setup &gt;&gt;Schedule Setup &gt;&gt;It's on "Full Rec" or "Alarm Rec" period when alarm is triggered; And Record Setup &gt;&gt;Mail(/FTP) Schedule Setup &gt;&gt;It's on "Motion/(Alarm) Mail(/FTP)" period when alarm is triggered  <u>※It's enabled when both Necessary Condition and one of above three conditions are met.</u></p> <p>*p: Mail/FTP server setting: Network Setup&gt;&gt;Mail(/FTP) Setup&gt;&gt;Fill in server information</p> <p>*p: Pre- / Post-alarm recording length setting: Record Setup&gt;&gt;Pre(/Post)-Alarm Record Time</p>			X
Http CGI	Network Setup>>HTTP Notification Setup>>Fill in Http server information and tick "Enable"			

**\*p[1]: Or, in another interpretation way:**

Send E-mail / Upload to FTP with Pre-/ Post-alarm Recording	<p>Condition 1: Record Setup &gt;&gt;"Record Mode" set to "Manual" or "Alarm Trigger". It's not on "Stop Rec" period; And Network Setup &gt;&gt;Mail(/FTP) Setup &gt;&gt;Tick "Motion(/Alarm)"</p> <p>Condition 2: Record Setup &gt;&gt;"Record Mode" set to "Schedule". It's not on "No Rec" period; And Mail(/FTP) Schedule Setup &gt;&gt; It's not on "No Mail(/FTP)" period  <u>※It's enabled when both Necessary Condition and one of above two conditions are met.</u></p>
-------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------



## 3.6 NETWORK SETUP



### A. IP ADDRESS SETUP

Press **Enter** or **F5** to setup NVR IP address.



#### A-1. IP Mode

Press drop down list to change IP mode to Static IP or DHCP.

#### A-2. IP Address

Give the NVR IP Address.

#### A-3. NetMask

Give the subnet mask which we usually set to 255.255.255.0.

#### A-4. Gateway

Give NVR gateway.

#### A-5. DNS1 & DNS2

Key in DNS1 and DNS2 that are provided by ISP.

#### A-6. WebPage Port

Give the NVR http port for web browser. Default is 80.

### B. PPPoE SETUP



### **B-1. PPPoE Setting**

Press the drop down list to enable or disable PPPoE.

### **B-2. User Name**

Insert the user name (ADSL account) which provided from local ISP.

### **B-3. Password**

Insert the password which provided from local ISP.

### **B-4. Password Confirm**

Insert the password again to confirm the password.

### **B-5. State**

Present the current status of PPPoE function.

### **B-6. Send Mail After Dialed**

Click the drop down list to enable or disable the function.

### **B-7. Subject**

Insert the mail subject when dialed successfully.

## **C. DDNS SETUP**

### **C-1. DDNS Enable**

Click the checkbox to enable or disable DDNS function.

### **C-2. Provider**

Click the drop down list to select DDNS provider.

### **C-3. Host Name**

Insert the registered host name in the selected provider.

### **C-4. User Name**

Insert the registered user name in the selected provider.

### **C-5. Password**

Insert the registered password in the selected provider.

### **C-6. Update Interval**

A period of time to update IP address.

### **C-7. State**

The state after apply for DDNS.

Updating: Information update.

Idle: Stop service.

DDNS registered successfully, now log by

<http://<username>.ddns.camddns.com>: Registered successfully.

Updating Failed, the name is already registered.

Updating Failed, please check your internet connection.

## D. MAIL SETUP

**Mail Setup**

Enable ☐ ALARM ☐ MOTION

Mail Server

SMTP Port

Username

Password

Sender's Mail

Receiver's Mail

BCC Mail

Subject

### D-1. Enable

Tick “Alarm” to send video to the mail address when external alarm or DI from IPCam is triggered. Tick “Motion” to send video to the mail address when motion detection is triggered.

### D-2. Mail Server

The IP address of Mail Server

### D-3. SMTP Port

The port of SMTP (known as Simple Mail Transfer Protocol). (Default value is 25)

### D-4. User Name

The user name while log in to the mail server.

### D-5. Password

The password while log in to the mail server.

### D-6. Sender's Mail

The sender's account when send the mail via this mail server.

### D-7. Receiver's Mail

The receiver's mail address.

### D-8. BCC Mail

The receiver's mail address for Bcc Mail.

### D-9. Subject

The subject while sending the mail.

## E. FTP SETUP

**FTP Setup**

Enable ☐ ALARM ☐ MOTION

FTP Server

Username

Password

FTP Port

Path

### E-1. Enable

Tick “Alarm” to upload video to FTP when external alarm or DI from IPCam is triggered. Tick “Motion” to upload video to FTP when motion detection is

triggered

#### **E-2. FTP Server**

The IP address of FTP Server.

#### **E-3. User Name**

The username while log in to the ftp server.

#### **E-4. Password**

The password while log in to the ftp server.

#### **E-5. FTP Port**

The port number of file transmission. (Default value is 21)

#### **E-6. Path**

The ftp path where the user wants to reserve the information.

### **F. DHCP Server Setup**

The screenshot shows a 'DHCP Server Setup' dialog box. It has four main settings: 'Enable' with a checked checkbox, 'Start IP Address' set to '192.168.1.20', 'End IP Address' set to '192.168.1.100', and 'Lease Time' set to '10' with a dropdown menu showing 'Day'. At the bottom right, there are 'Save' and 'Cancel' buttons.

#### **F-1. Enable**

Use the checkbox to enable or disable DHCP Server function. When the function is activated, the NVR can be treated as the DHCP server. The NVR will assign or distribute one of the IP address which is according to the setup IP address range (start and end IP Address.) to the connecting IPCAM (setup DHCP function as well).

To use DHCP server function, the IP address of NVR itself has to be static IP.

#### **F-2. Start IP Address**

Use the virtual keypad to insert the start IP Address of DHCP server.

#### **F-3. End IP Address**

Use the virtual keypad to insert the end IP Address of DHCP server.

#### **F-4. Lease Time**

Press or to change the lease time of DHCP server.

### **G. UPNP Port Forwarding Setup**

The screenshot shows a 'UPNP Port Forwarding Setup' dialog box. It has three main settings: 'Enable' with a checked checkbox, 'External HTTP Port' set to '80', and 'External RTSP Port' set to '554'. At the bottom right, there are 'Save' and 'Cancel' buttons.

#### **G-1. Enable**

Use the checkbox to enable or disable UPNP port setup.

### **G-2. External HTTP Port**

Use the virtual keypad to insert the external http port.

### **G-3. External RTSP Port**

Use the virtual keypad to insert the external rtsp port.

## **H. HTTP Notification Setup**

### **H-1. Enable**

Use the checkbox to enable or disable HTTP Notification. This function allows users to set up the CGI command to a HTTP server. The server can be any device that can receive CGI via HTTP protocol. When alarm events happen, NVR sends CGI to that server.

### **H-2. HTTP Server**

Key in the server IP address.

### **H-3 HTTP Port**

Key in the server port used for http protocol.

### **H-4 User Name**

Key in the server username.

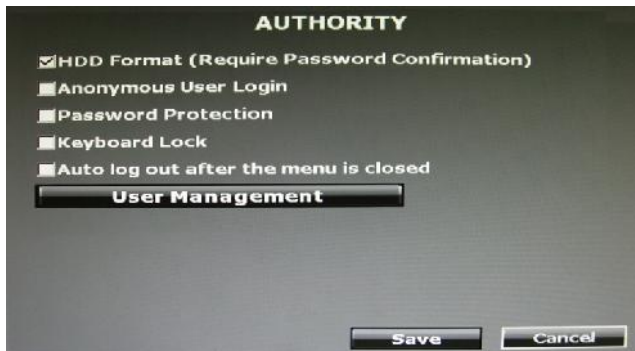
### **H-5 Password**

Key in the server password.

### **H-6 HTTP CGI**

Key in the CGI that you would like to send to the server when alarm events happen.

### 3.7 AUTHORITY SETUP



#### A. HDD Format

Use the checkbox to enable or disable the authority of HDD Format function. If enable this function, the user has to insert password while performing HDD format.

#### B. Anonymous User Login

Use the checkbox to enable or disable the authority of anonymous user login. If enable this function, the user does not have to insert the username/ password and can view the live image via IE browser.

#### C. Password Protection

Use the checkbox to enable or disable the authority of password protection.

#### D. Keyboard Lock

Use the checkbox to enable or disable the operation of control bar which is in the right hand side of live view. The control bar can not work when keyboard lock is activated.

#### E. Auto Logout

Use the checkbox to enable or disable the operation. If enabled, the system will log out automatically after the menu closed.

#### F. User Management

Among this item, user can setup the user management permission and the user authority management.



##### F-1. Permission

Use the mouse to click the checkbox to modify and alter the user authority.





## F-2. Add User

After click **Add User** button, the setup page will present in the following.  
The user can distribute the authority and the permission for the new user.

**User Management**

NO. **2**

User **USER2**

Password

Password

☒ Network LogIn ☒ REC ON/OFF ☒ Backup

☒ Play/Event ☒ PTZ ☒ MENU Setup

☒ Camera Setup ☒ Record Setup ☒ Alarm Setup

☒ Network Setup ☒ Disk Setup ☒ System Setup

Masking Channels in Playback and Network:

☐ CH01 ☐ CH02 ☐ CH03 ☐ CH04

Save Cancel

### 3.8 DISK MANAGEMENT



#### A. Overwrite Mode

Select “ON”, then the oldest recording data will be overwritten by new recording data. Select “OFF”, then NVR will stop writing recording data into HDD when the HDD is full.

#### B. Hard Disk Full Warning

Under non-overwrite mode, click the drop down list to change value to 20%/ 15%/ 10% or 5% . When the HDD space is less then setting ratio, the buzzer buzzes.

#### C. Auto Deletion

Select “ON”, then on the playback list, users cannot find the recording data that is older than the reserve day.

For example, it's 2012/10/19 17:40 now. Auto deletion is set as on, and reserve day is set as 3. The recording data which recording time is order than 2012/10/16 17:40 will not be indicated on the playback menu.

#### D. Reserve Day

Use or to setup the reserve day between 1~30 days.

Note: If the “Overwrite Mode” is set OFF and NVR keeps recording, the HDD will finally get full regardless that “Auto Deletion” is ON.

#### E. Storage Information


The information of storage device will present in this page.





## F. Format HDD

Insert the user name and password while performing HDD format function.



The image shows a 'User Login' dialog box with a dark gray background. It contains three input fields: a small one for 'User', another small one for 'Password', and a larger one for a confirmation or additional password. Below these fields are two buttons: 'LOGIN' and 'Cancel'.

### 3.9 SYSTEM SETUP

#### A. NVR Name

Use the virtual keypad to insert the name of the NVR.

#### B. NVR ID

Use or to setup the NVR ID. When you have several NVR, use ID to distinguish them when you operate remote controller or other device.

#### C. Language

Use the drop down list to change the NVR language. Currently, there are English, Traditional Chinese and Simplified Chinese three options.

#### D. Date Format

Use the drop down list to change DATE. There are DD/MM/YYYY, YYYY/MM/DD and MM/DD/YYYY three modes.

#### E. Version

The firmware version of the NVR will show in this column.

#### F. Software Update

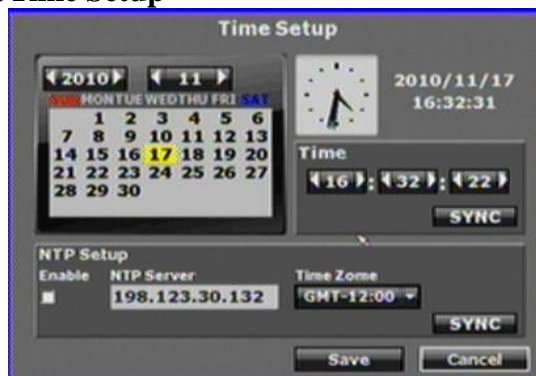
Click  button to perform firmware updating.


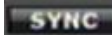
#### G. Configure Setup

Click the checkbox to select which item can be setup by the user. The user can also load the setting to factory default, load the configure from USB and backup configure to USB.

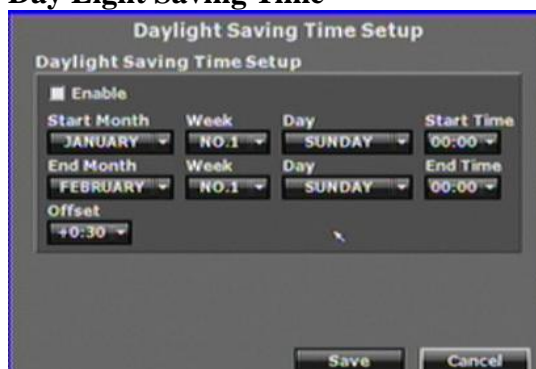



## H. Time Setup



Click  button within “Time” block can adjust and synchronize the time of the NVR as the system time of the PC. Moreover, if the user clicks the enable checkbox and  button within the NTP Setup block, the time of the NVR will synchronize as the NTP Server.

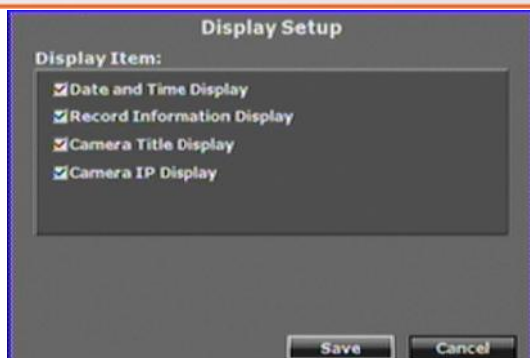
## I. Day Light Saving Time



After enable the daylight saving time function, the user can use the drop down list to select the start time and the end time of daylight saving time. After complete the setting, please click  button to reserve the setting.

## J. Status Display Setup

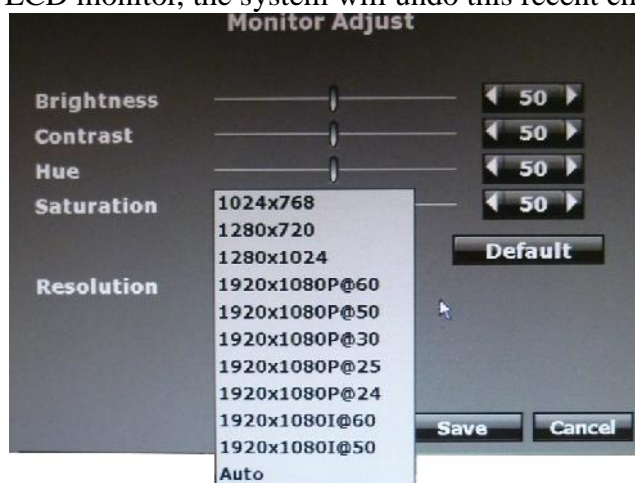
Use the mouse to click the options, which is including “Date and Time Display”, “Record Information Display” and “Camera Title Display”.



## K. Monitor Adjust

User can use or to adjust the monitor related setting within this page, there are “Brightness”, “Contrast”, “Hue” and “Saturation” four options can be set.

You can also adjust Resolution here. Please check the frame rate that your LCD monitor support before you select. If you select a resolution not compatible with the LCD monitor, the system will undo this recent change automatically.



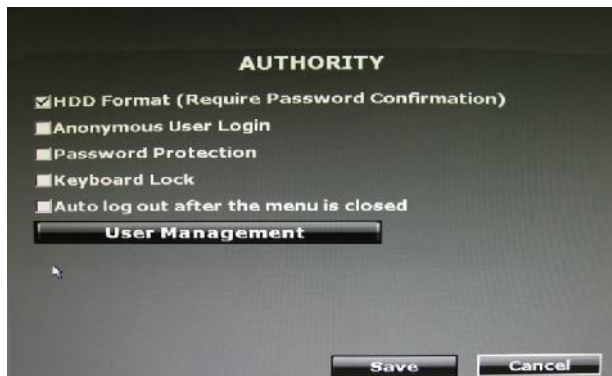
### 3.EX



### DEBUG MESSAGE

The purpose of the following procedure is to export a HDD debug message file. If user has problems with the NVR, the technical person can analysis the file and might find the cause of problem.

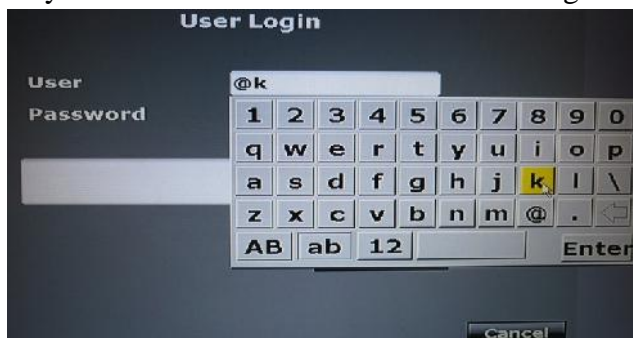
- Plug in a USB disk.
- Enter the Authority Setup page and make sure the option “HDD Format (Require Password Confirmation)” is ticked.



- Enter the Disk Setup page. Click “Format HDD”.



- Key in “@k” in the user name column to login. No password is required.



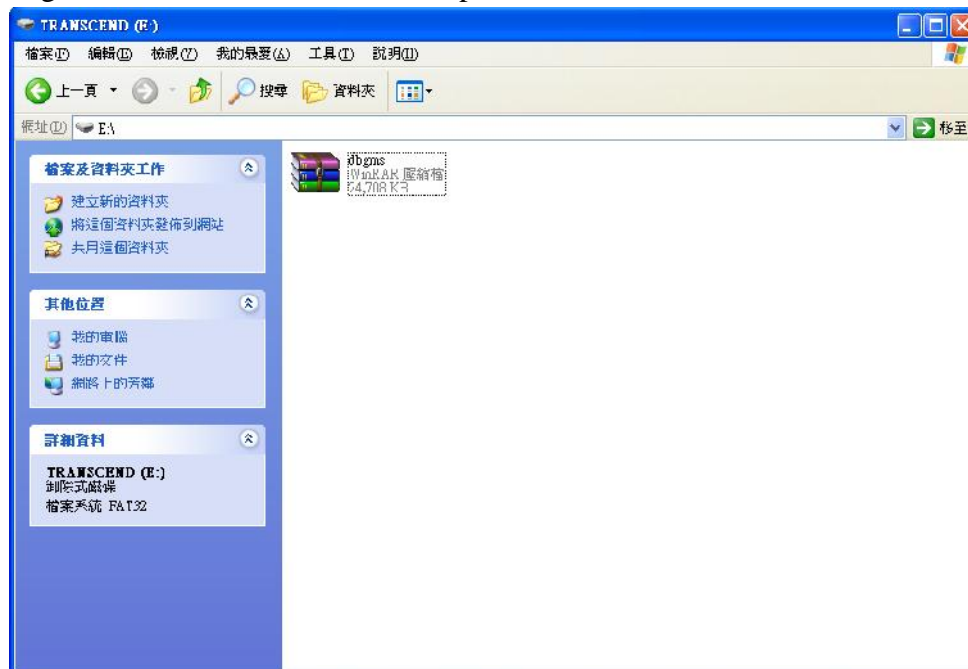
- The screen turns to Advance Setup page. Click download. It takes about 10 seconds to export the file.



- When the downloading is complete, a message pops up to remind the user. Click” OK”.



- Now the debug message file should have been in your USB disk. Please turn the file” dbgms.tar” to Linkcom’s technical person.






## 4 NVR PLAYBACK



**Note: Under playback mode, it will output sound when switch to full screen mode.**


### A. RECORD BACKUP

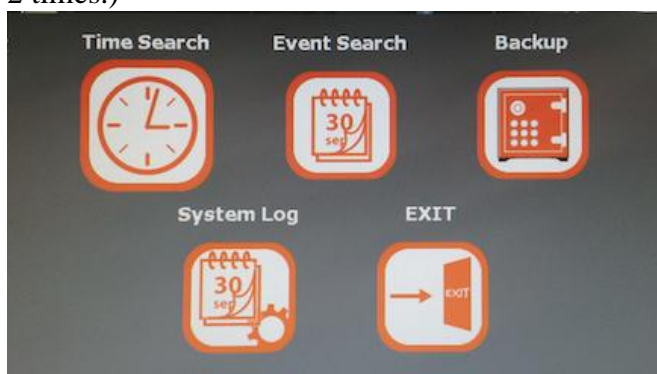
With playback mode, press this button to backup record (.264 video backup) and press this button again to finish backup. For performing the single image backup (.Y42 single image backup), press  first and then click this button to backup the necessary image.

### B. DISPLAY CONTROL

Within playback mode, use display control to switch the camera channel.

### C. DIGITAL ZOOM

In the live full screen mode, left-click the button of the mouse to pull a range to zoom in or zoom out the image. User can right-click the button of the mouse to disable this function. (NOTE: Using the mouse to operate digital zoom can zoom in to max. 16 times.) Moreover, user can also use ZOOM key on the front panel to perform this function. (First, click ZOOM Key and then click  key to select zoom in or zoom out position. Finally, click ENTER key to complete the setting. Moreover, click ZOOM Key again can disable digital zoom function. Using the panel key to perform zoom in function is fixed at 2 times.)



### D. FULL SCREEN

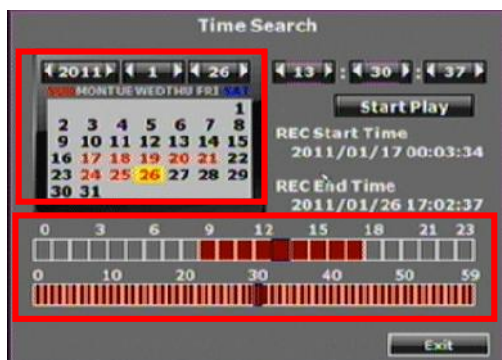
Press the bottom for full-screen mode.

### E. RECORD AND PLAYBACK CONTROL

Same as front panel controller and remote controller.

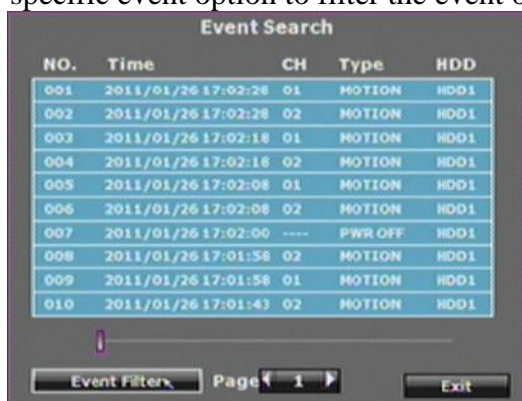
## 4.1 TIME SEARCH

Select the start of playback time and then click **Start Play** button to playback the recorded data. If the time contains the recorded data, the time point within this page will become red.



## 4.2 EVENT SEARCH

After entry to the event search page, user can click the event log item which shown on the list to start playback. Moreover, the user could click **Event Filter** button to select the specific event option to filter the event option that shown on the list.

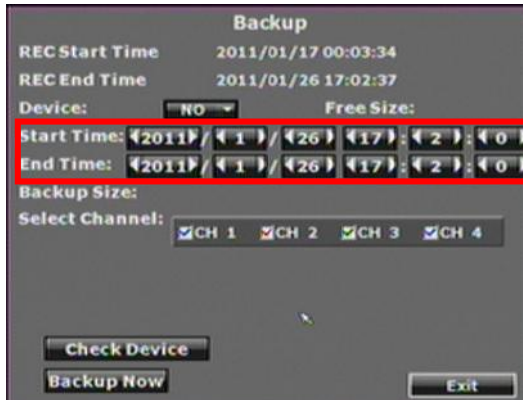


### 4.3 BACKUP

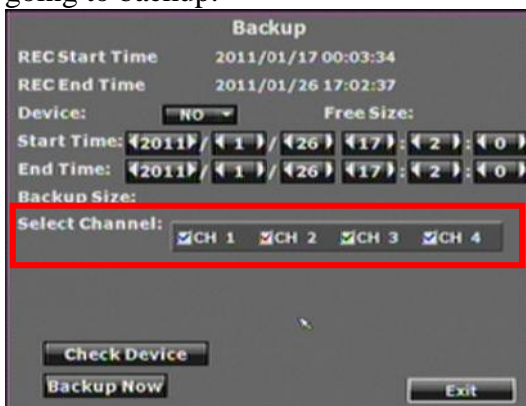
After click the backup button, the user could use drop down list to select the storage device, USB/ DVD-RW (08CH/ 16CH models) and the backup time selection mode, Time Mode/ Hours Mode. After that, click **Backup Now** button to start backup.

#### TIME MODE

Click or to select the start and end backup time.



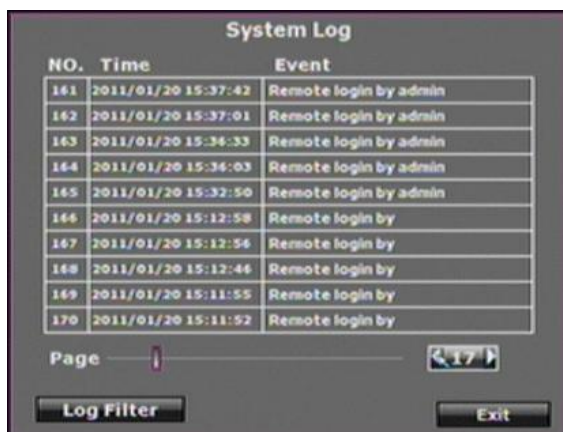
Moreover, among “Select Channel” option, use the mouse to select the channel which is going to backup.



#### 4.4 SYSTEM LOG

System log is reserved all of the system record. The maximum storage quantity is 2000.

Click **Log Filter** button to perform the further data filter action. After complete the specific item selection, please click **Save** button to reserve the setting. While return to the system log page, it will only reveal the specific selection items.



After click **Log Filter** button



## 5 BACKUP PLAYBACK

### SYSTEM REQUIREMENT

CPU: Intel Celeron 1.6G

MEMORY: 256MB.

VGA: 32MB

VGA RESOLUTION: 1024 x 768.

OS: Windows XP / 2000 or above

### SUGGESTED REQUIREMENT

CPU: Intel P4 2.8G

MEMORY: 512MB or above

VGA: 64MB or above

VGA RESOLUTION: 1024 x 768

OS: Windows XP / 2000 or above

NETWORK BANDWIDTH: Upload Speed is 256kbps or above

### 5.1 MAIN SCREEN SETTING



The player (D6Viewer.exe) is used to play the NVR backup video. D6Viewer.exe can be obtained via the Internet; moreover, while performing USB backup and DVD-RW backup, the software will be built automatically as well.

#### A. MAIN SCREEN

Open the D6Viewer. Use Overlay mode can improve the system resource performance.

The screenshot shows the D6Viewer application window. The main display area is a grid of video channels. On the right side, there is a 'Playback Control' panel. Red boxes and arrows highlight specific features:

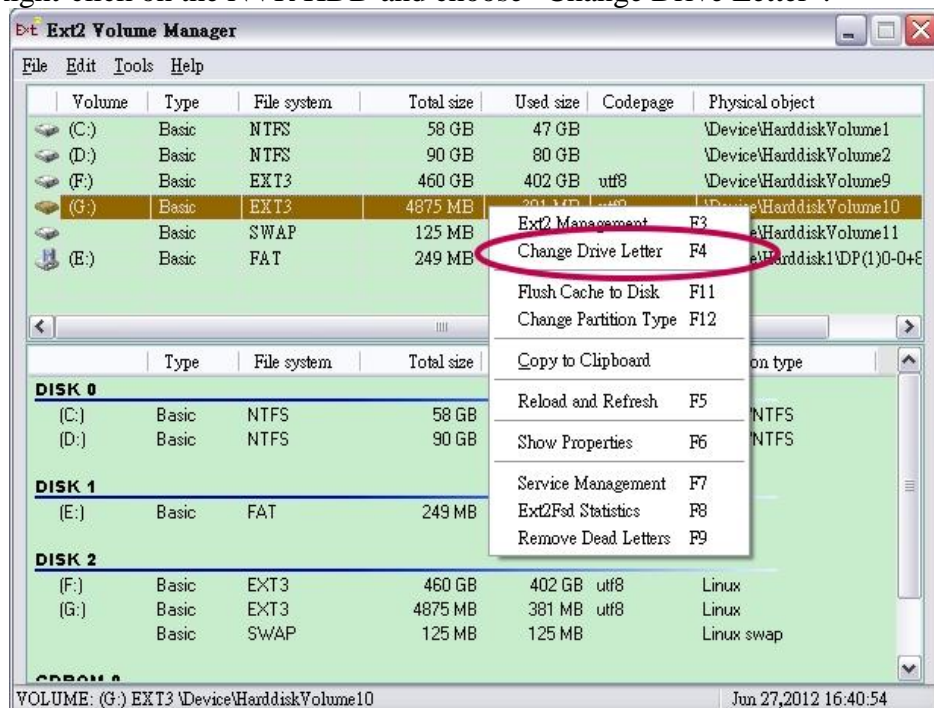
- Select video source:** Points to the 'File' menu and the 'H-D Play' option.
- Channel Selected:** Points to the 'File' menu and the 'H-D Play' option.
- Save as AVI:** Points to the 'Save AVI' button in the Playback Control panel.
- Time & Event Search:** Points to the 'Time Search' and 'Event Search' buttons in the Playback Control panel.
- Channels Divide Screen:** Points to the 'Full Screen' and 'Play All In' buttons in the Playback Control panel.



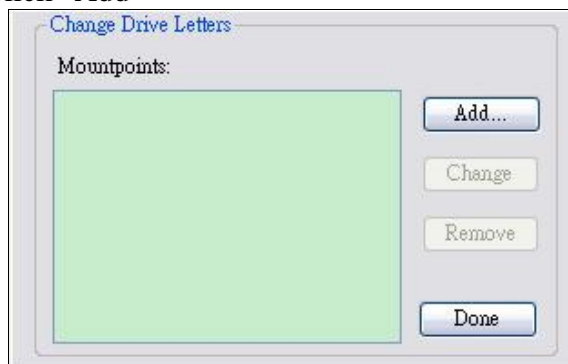
## B. HDD PLAY

1. Remove the NVR HDD and connect it to the PC. The NVR HDD is Linux format, so the Windows system may not know it. Please use the software “Ext2Fsd” to assign a drive letter to the HDD. “Ext2Fsd” is in the attached CD or can be downloaded from the Internet.

- Start the Ext2Fsd, and it will detects all the disks connected with your PC. Right-click on the NVR HDD and choose “Change Drive Letter”.

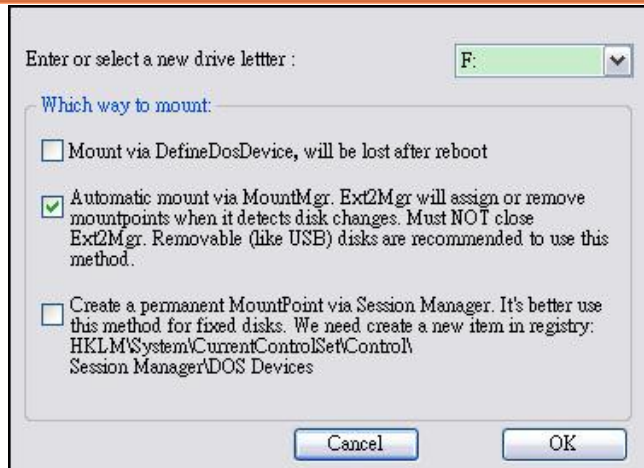


- Click “Add”

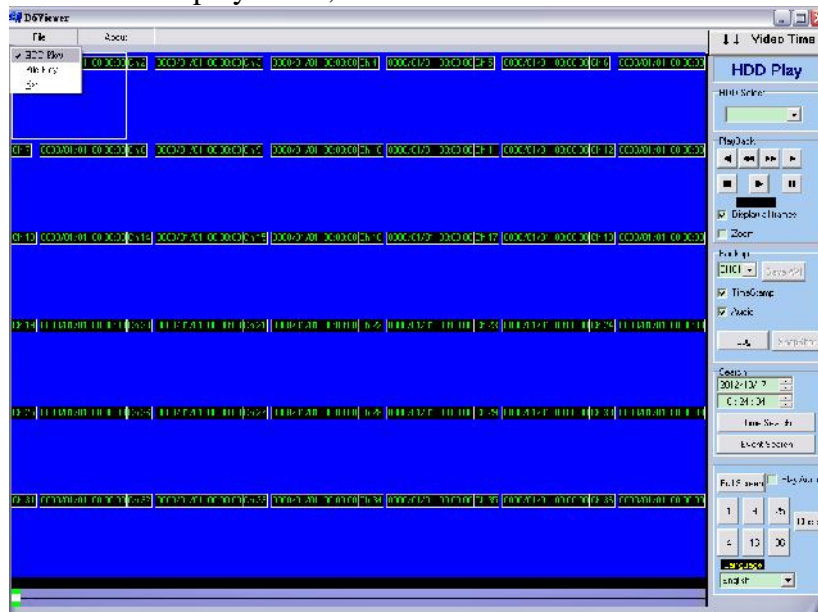


- Assign a letter to the HDD, then click OK so that the HDD get the letter and can be recognized by the Windows.



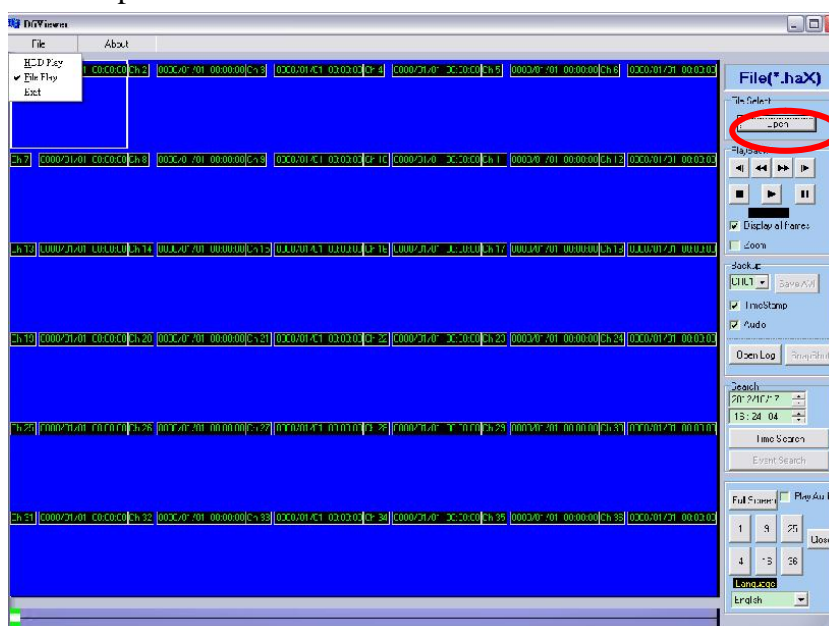


2. Under HDD play mode, select the NVR HDD to load the video file in the HDD.

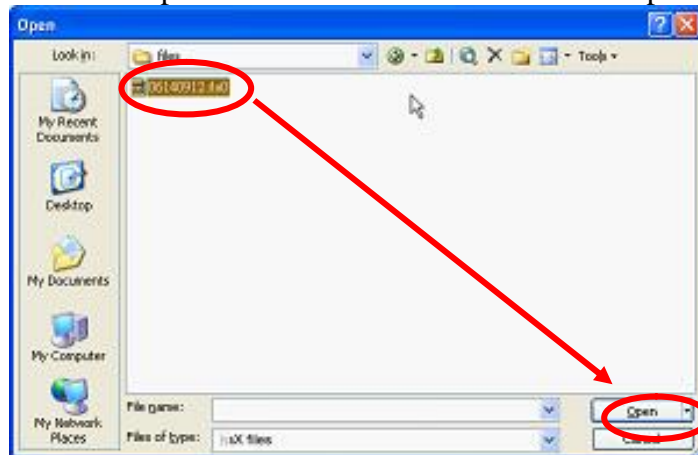


### C. File Play

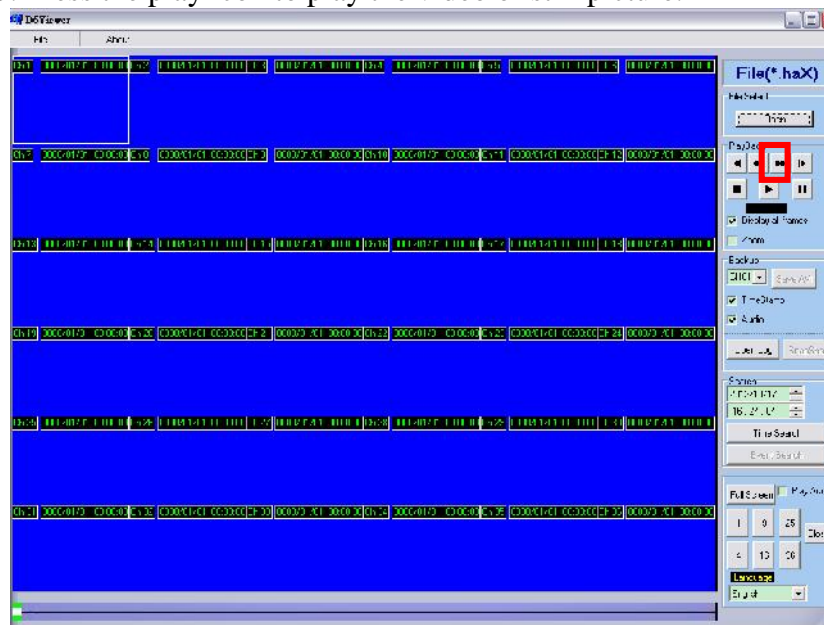
1. You can use D6Viewer to open a single video backup file. Under file play mode, select "Open".



- Choose the path that the .haX file is reserved and pick the file to playback.



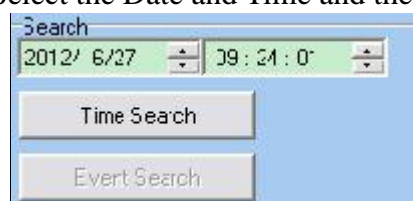
- Press the play icon to play the video or still picture.



## 5.2 PLAYBACK OPERATION

### A. TIME SEARCH

Select the Date and Time and then click **Time Search** to play the film.

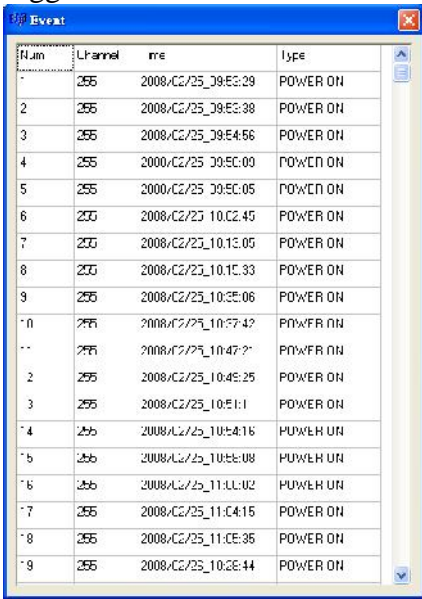


### B. EVENT SEARCH

It will display all the events which are reserved within the NVR HDD after press


**Event Search** (Shown in the following) and double click left button of mouse to

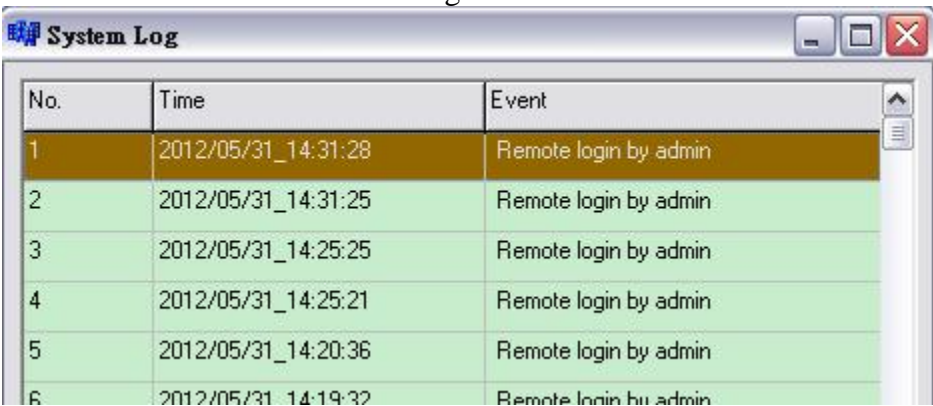
trigger event.



Id	Channel	Time	Type
1	255	2008/02/25_09:53:29	POWER ON
2	255	2008/02/25_09:53:38	POWER ON
3	255	2008/02/25_09:54:56	POWER ON
4	255	2008/02/25_09:55:00	POWER ON
5	255	2008/02/25_09:55:05	POWER ON
6	255	2008/02/25_10:02:45	POWER ON
7	255	2008/02/25_10:13:05	POWER ON
8	255	2008/02/25_10:15:33	POWER ON
9	255	2008/02/25_10:35:06	POWER ON
10	255	2008/02/25_10:57:42	POWER ON
11	255	2008/02/25_10:57:42	POWER ON
12	255	2008/02/25_10:45:25	POWER ON
13	255	2008/02/25_10:51:11	POWER ON
14	255	2008/02/25_10:54:16	POWER ON
15	255	2008/02/25_10:55:08	POWER ON
16	255	2008/02/25_11:00:02	POWER ON
17	255	2008/02/25_11:04:15	POWER ON
18	255	2008/02/25_11:05:35	POWER ON
19	255	2008/02/25_10:58:44	POWER ON

### C. LOG

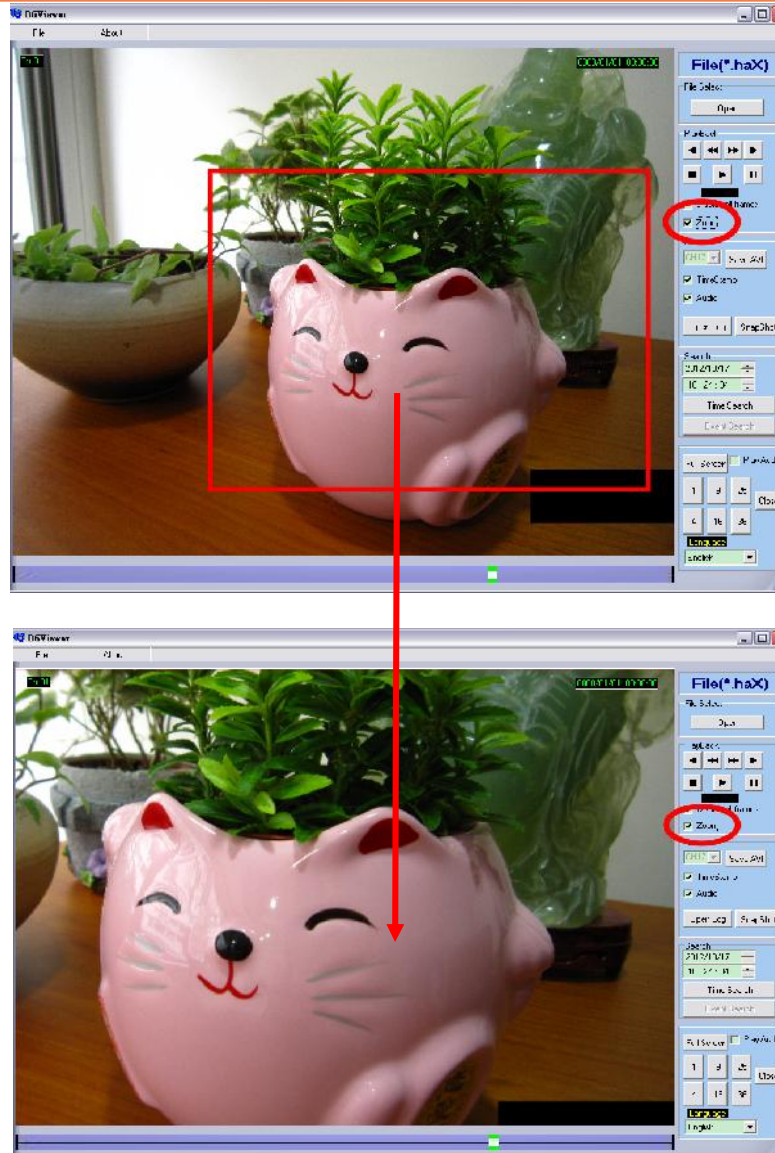
Click  to check the log records.



No.	Time	Event
1	2012/05/31_14:31:28	Remote login by admin
2	2012/05/31_14:31:25	Remote login by admin
3	2012/05/31_14:25:25	Remote login by admin
4	2012/05/31_14:25:21	Remote login by admin
5	2012/05/31_14:20:36	Remote login by admin
6	2012/05/31_14:19:32	Remote login by admin

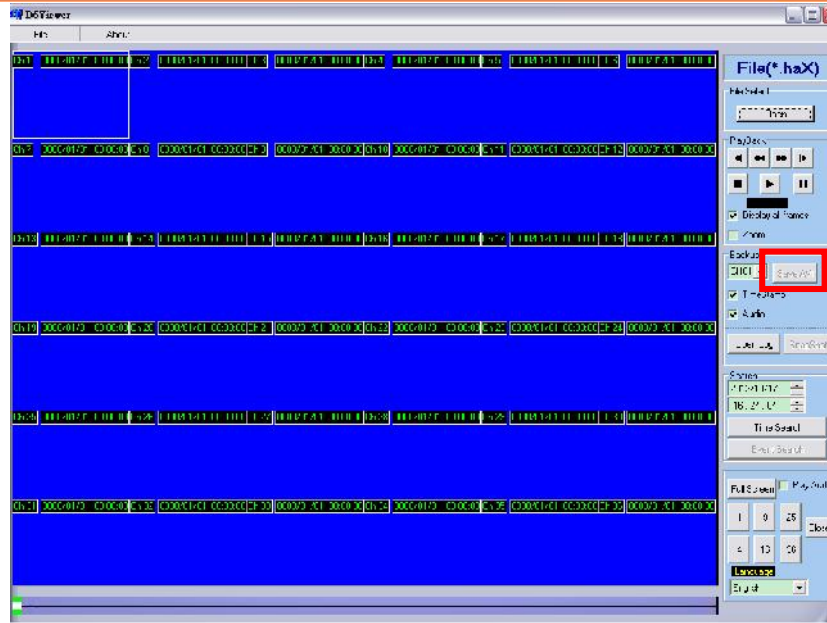
### D. ZOOM


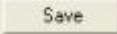

Tick the “Zoom” box and drag an area on the screen. Click the area to zoom in.



## E. BACKUP FILE TO AVI

1. Please select specific channel to backup.



2. During video playback mode please press AVI bottom  to start.
3. Make up a filename and path than press  bottom to start AVI backup.
4. Press AVI bottom  to finish backup.



## 6 NETWORK VIEWING & PLAYBACK

### SYSTEM REQUIREMENT

CPU: Intel Celeron 1.6G

MEMORY: 256MB

VGA: 32MB

VGA RESOLUTION: 1024 x 768.

OS: Windows XP / 2000 or above

### SUGGESTED REQUIREMENT

CPU: Intel P4 2.8G

MEMORY: 512MB or above

VGA: 64MB or above

VGA RESOLUTION: 1024 x 768

OS: Windows XP / 2000 or above

NETWORK BANDWIDTH: Upload Speed is 256kbps or above

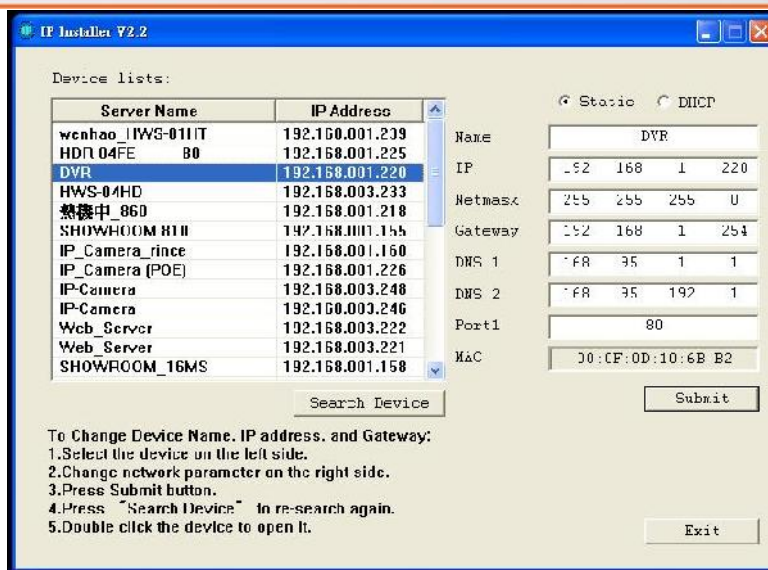
### 6.1 IP ADDRESS SETUP ON PC SITE

Install cameras inside in LAN or use network cable to connect with PC. This is for IPInstallerEng.exe to set up IP address of cameras. If OS is Windows XP SP2 or above, the following Windows Security Alert will popup. Then, please click on **Unblock**.



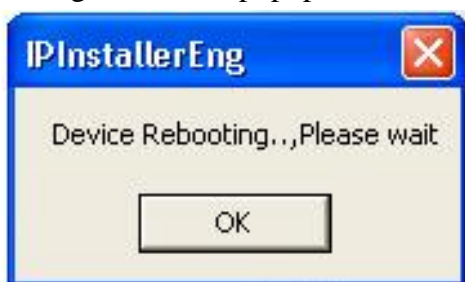
Then, IPInstallerEng.exe will popup:  
NVR default IP address is 192.168.1.220





**NOTE:** Please input correct network parameters without blank spaces.

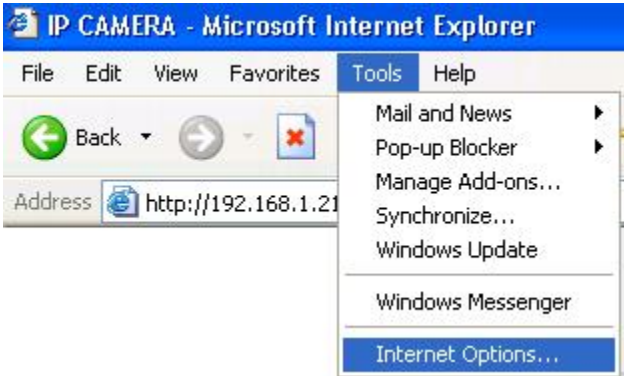
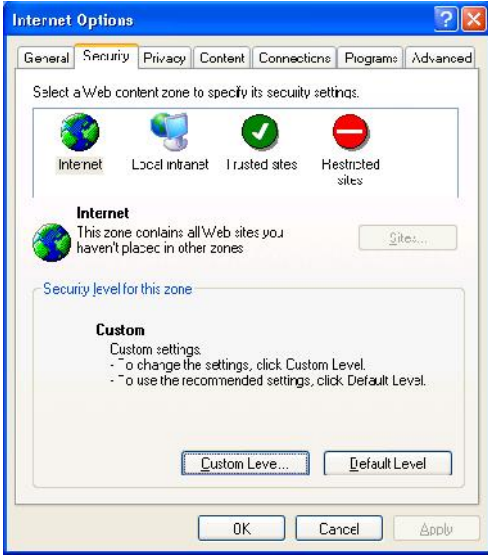
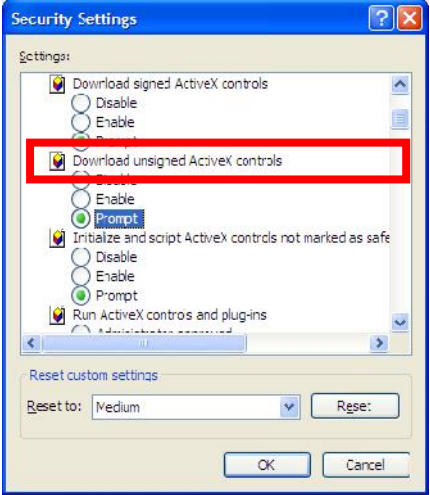
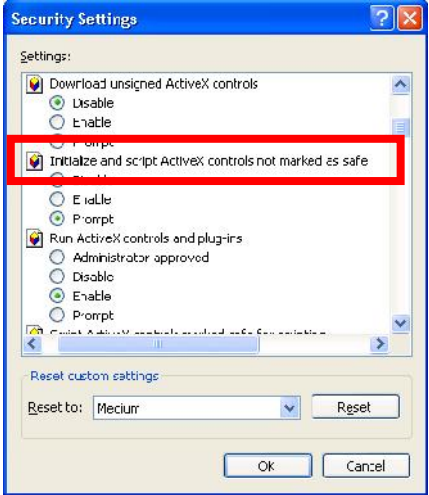
On Device Lists, it lists all servers. Click on one server and then its IP setting will show on the right side. After editing the parameters and clicking on Submit, the following dialogue box will popup. And, it will reboot the device with new parameters.



## 6.2 OPTIONAL MICROSOFT INTERNET EXPLORER SETUP

### OPTION 1: DISABLE ACTIVEX WARNING

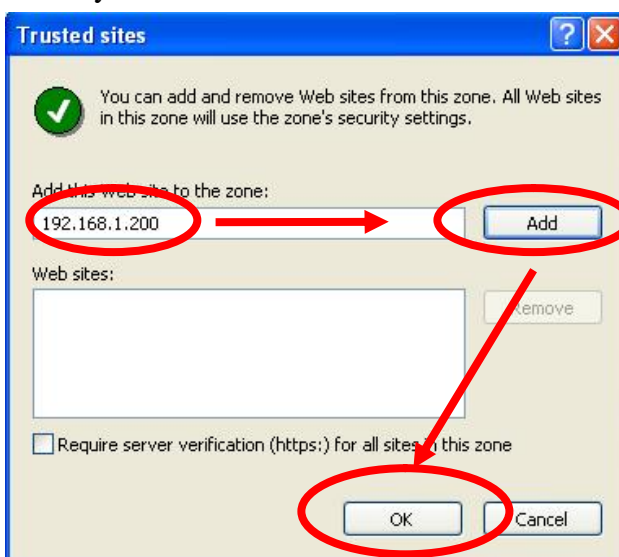
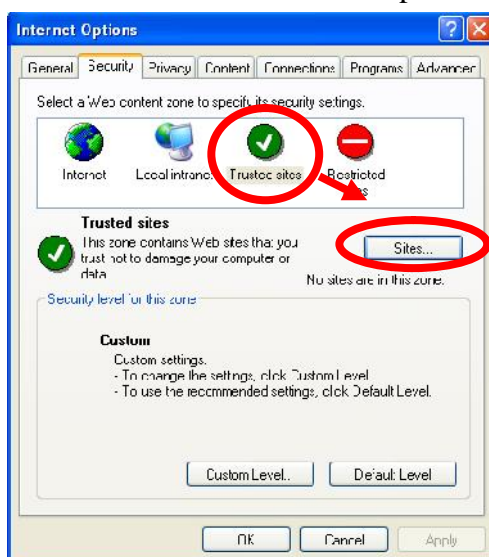
- A. IE → Tools → Internet Options → Security → Custom Level → Security Settings → Download unsigned ActiveX controls → Enable or Prompt (recommend).
- B. IE → Tools → Internet Options → Security → Custom Level → Security Settings → Initialize and script ActiveX controls not marked as safe → Enable or Prompt (recommend).

<p style="text-align: center;"><b>1</b></p> 	<p style="text-align: center;"><b>2</b></p> 
<p style="text-align: center;"><b>3</b></p> 	<p style="text-align: center;"><b>4</b></p> 
<p style="text-align: center;"><b>5</b></p> <p style="text-align: center;">Above three options are all based on select as the prompt. As indicated in the dialogue box. Please select "YES."</p>	



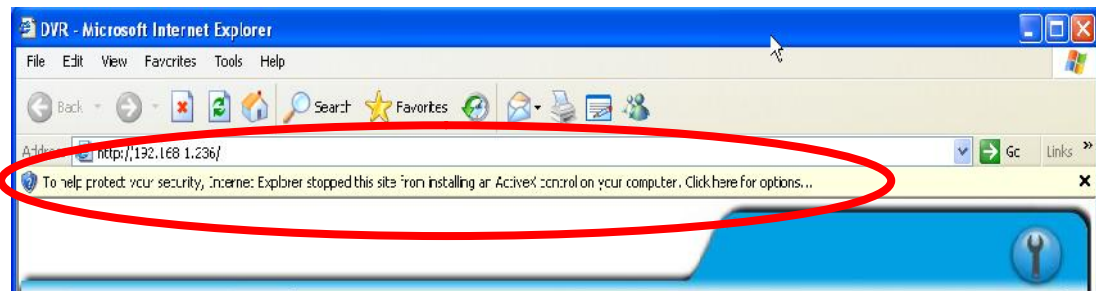
## OPTION 2: ADD TO TRUSTED SITES

IE → Tools → Internet Options → Security → Trusted sites → Sites

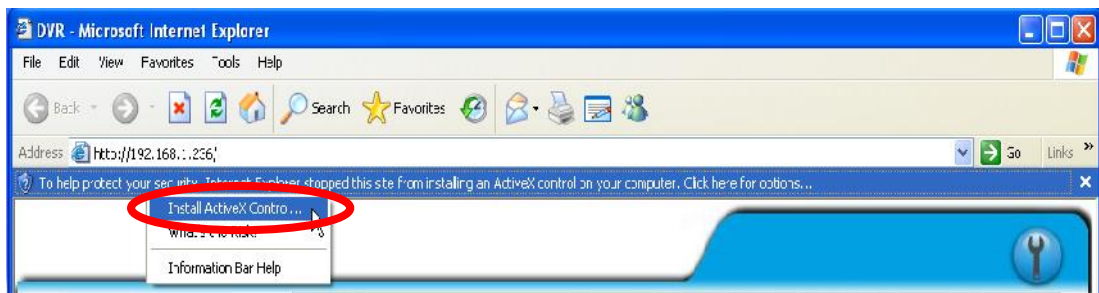


## 6.3 LOGIN

### A. INSTALL ACTIVEX



### B. START INSTALL ACTIVEX



### C. ACCOUNT & PASSWORD LOGIN

After IP setup and connect to network or LAN, type IP address on IE Browser directly. The following User name & Password Login window will popup.

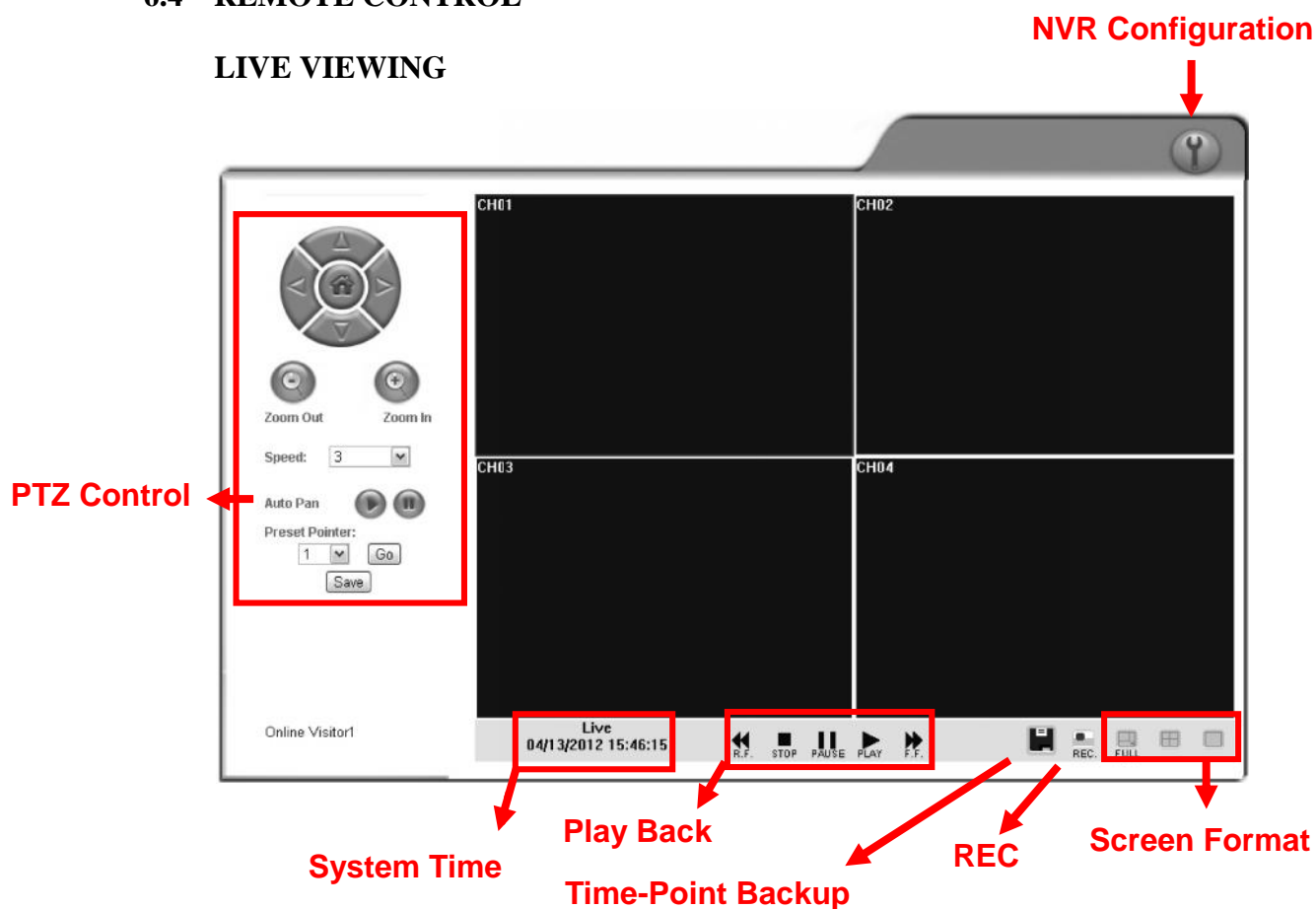


Default user name: admin

Default password: admin

## 6.4 REMOTE CONTROL

### LIVE VIEWING

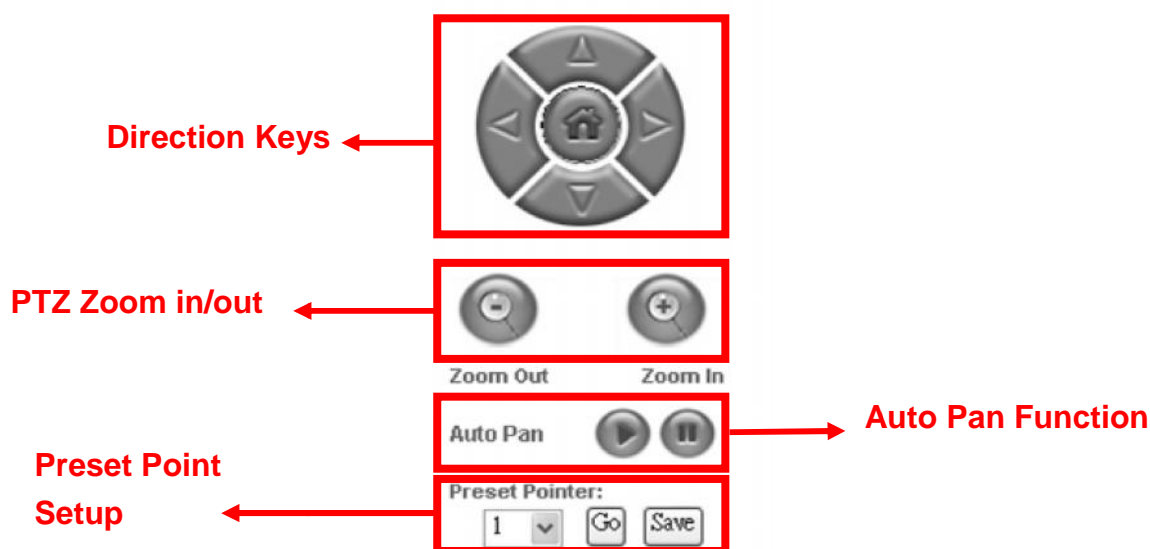


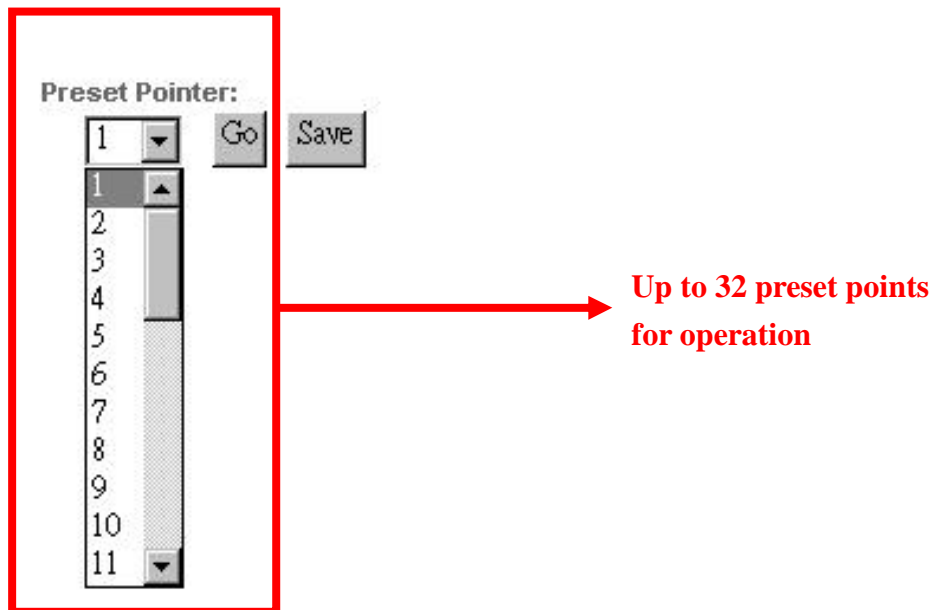
#### A. NVR Configuration

Get into NVR network menu.

#### B. PTZ Control

PTZ control function panel






### C. SYSTEM TIME


Live viewing mode: The current live viewing time.


### D. SCREEN FORMAT

Switch screen format and click twice to switch different channels with full screen.

- E.**  **Full Screen.**  
Click again to return.


- F.**  **REC.**  
Click to start record the live video to the PC or storage device. The saved file is \*.ha0 file.

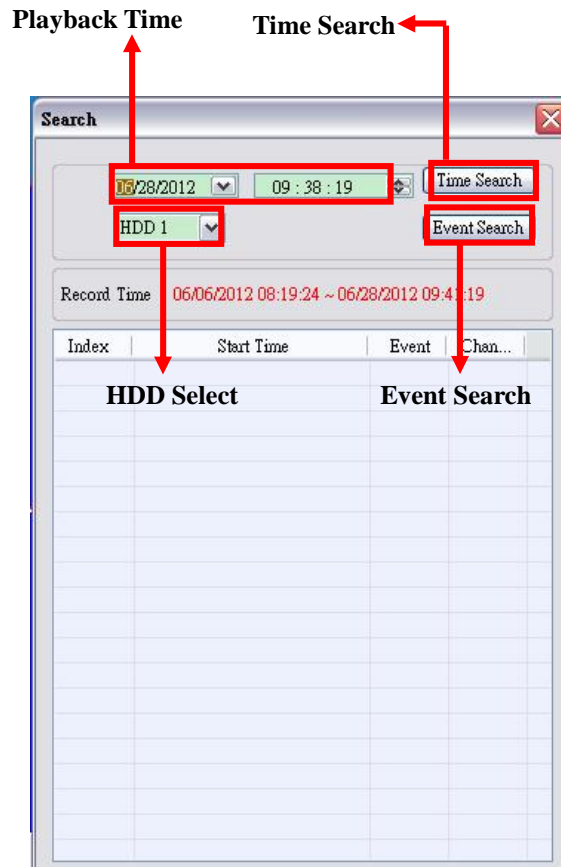
- G.**  **Playback**  
Click and select time playback or event playback.

- H.**  **Time-Point Backup**  
Click to select backup time point. The saved file is \*.ha0 file.



## PLAYBACK by TIME SEARCH & EVENT SEARCH

Click  **PLAY**, and the playback window will popup



### A. HDD Select

User can select HDD1 or HDD2 for playback

### B. Playback Time

User can select the time then press “Time Search” for playback.


### C. Time Search

User can select the time then press “Time Search” for playback.

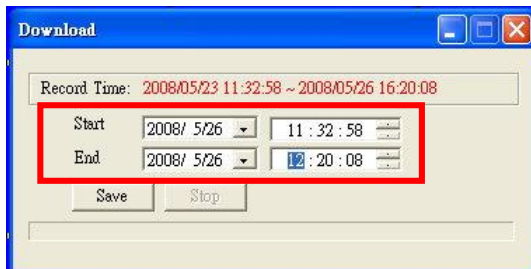
### D. Event Search

User can select event item by pressing “Event Search” for playback.

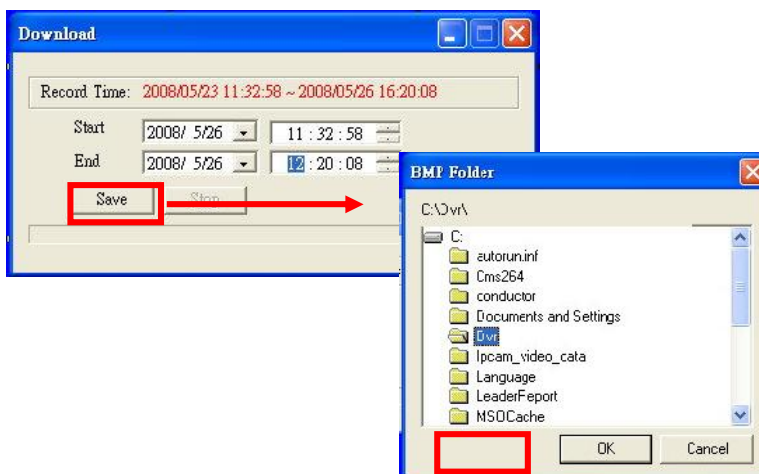
## TIME-POINT BACKUP

Click  to operate Time-Point backup.

First, select Start and End backup time which have to among the Record Time.

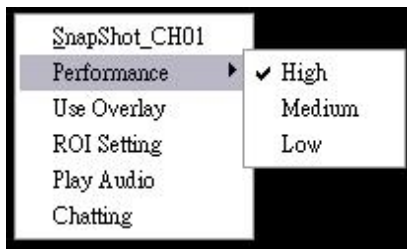


Then, click **Save** button to select the position on PC where the user is going to backup the data. After that, press **OK** button to start the backup.



Finally, double-click the left button of the mouse to open the saved backup file. The backup file will named as the time when start to backup, such as, (20080526113258.ha0) will be 2008/05/26 11:32:58.

## OTHER FUNCTIONS



User can use other functions by clicking the left of mouse

### A. Snapshot:

User can save any single picture from image.

### B. Performance:

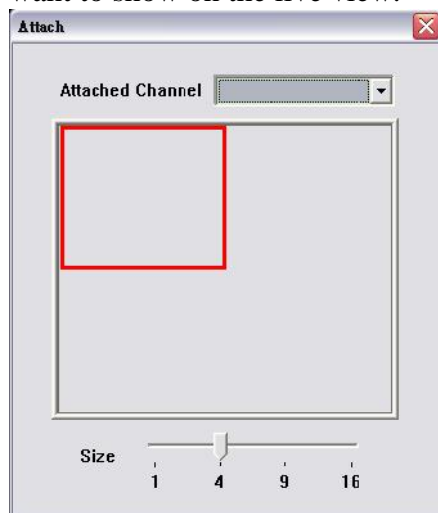
User can select image quality (high, medium & low).

### C. Use Overlay:

User can use Overlay function. The function can save system resource and promote the efficacy.

### D. ROI Setting

Select a normal connection or RTSP connection channel, and attach the currently set channel to it. The attaching and attached channel can display the same live view, or you can drag the size bar and move the red frame to adjust the square to where you want to show on the live view.



### E. Play audio:

User can play audio function by channel.


Note: remote user can receive audio from NVR. However, there's no influence on sound recording of playback video whether the audio is played or not.

### F. Chatting

Click it to enable audio transmission from PC to the IP camera. You can connect a microphone on PC and speak to the camera side.

## 6.5 CONFIGURE



Click  to go to the configuration page.

The screenshot shows the NVR configuration web interface. On the left is a sidebar menu with categories: System (containing System Information, User Management, System Update), Network (containing IP Setting, PPPoE, DNS, Mail & FTP, DHCP Server, HTTP Notification), and Others (containing Player, NVR Setting, System Log). The main content area is titled 'System Information' and contains two sections: 'Server Information' and 'Time Setting'. The 'Server Information' section has fields for 'Server Name' (NVR), 'Language' (English), and 'MAC Address' (00:0f:0d:16:3b:d2). The 'Time Setting' section includes 'Server Time' (2013/01/04 18:18:00), 'Time Zone' (GMT+08:00), 'Date Format' (yy/mm/dd), and options for 'Enable Daylight Saving' (unchecked), 'NTP' (selected), and 'Manual' (unselected). The NTP section shows 'NTP Server' (198.123.30.132), 'Date' (2013/01/04), and 'Time' (18:18:01). The Manual section shows 'Date' (2013/01/04) and 'Time' (18:17:52). At the bottom right is an 'Apply' button.

### A. SYSTEM / SYSTEM INFORMATION

#### A-1 SERVER INFORMATION

Server Information	
Server Name:	NVR
Language:	English
MAC Address:	00:0f:0d:16:3b:d2

**SERVER NAME:** Give the NVR name to distinguish it.

**LANGUAGE:** Select the language of NVR configuration page.

**MAC ADDRESS:** The MAC address.(cannot be revised)

## A-2 TIME Setting

Time Setting

Server Time: 2013/01/04 18:18:60 Time Zone: GMT+08:00

Date Format:
☒ yy/mm/dd
☐ mm/dd/yy
☐ dd/mm/yy

Time Zone:

☐ Enable Daylight Saving:

☐ NTP :

NTP Server :

☐ Synchronize with PC's time

Date : 
Time :

☐ Manual

Date : 
Time :

☒ The date and time remain the same

**Server Time:** It shows current NVR server time.

**Date Format:** Select the date display format.

**Time Zone:** Select your time zone. It affects server time when you use "NTP" time.

**Enable Daylight Saving:**

Give the start and end daylight saving time. During daylight saving, the time will be 1 hour faster.

**NTP:** Key in the NTP server IP address and update interval. The NVR time will be synchronized with NTP server time. To use this option, if the NTP Server is under WAN, the NVR must be set to access WAN.

**Synchronize with PC's time:** In "Date" and "Time" column it shows your current PC time. Click "Apply" to make the NVR time the same with PC time.

**Manual:** Key in the date and time, and click "Apply".

**The date and time remain the same:** After you select "Synchronize with PC's time" or "Manual", and click "Apply", the selected mark will jump to this option.

## B. SYSTEM / USER MANAGEMENT

User Management			
<b>Authority Setting</b>			
HDD Format Password Check	<input type="radio"/> Enable	<input checked="" type="radio"/> Disable	
Anonymous Login	<input type="radio"/> Enable	<input checked="" type="radio"/> Disable	
Password Protection	<input type="radio"/> Enable	<input checked="" type="radio"/> Disable	<input type="button" value="Apply"/>
<b>User List</b>			
Username	Modify	Remove	<input type="button" value="Add User"/>
admin	Edit		

User Management provides 3 levels of limits of authority: Administrator (the highest), User, and Guest.

Administrator: Possessing the highest level of authority to operate full functions within network.

User: Having Live Image and Video Playback authority. Moreover, PTZ controlled is included as well.

Guest: Only have Live Image authority.

Default administrator account: Username: admin Password: admin

### B-1 AUTHORITY SETTING:

Enable or Disable those option to limit the authority.

### B-2 USER MANAGEMENT:

User Setup	
Username:	<input type="text"/>
Password:	<input type="text"/>
Confirm:	<input type="text"/>
<input type="checkbox"/> Network Login	
<input type="checkbox"/> Record ON/OFF	
<input type="checkbox"/> Play/Event	
<input type="checkbox"/> PTZ	
<input type="checkbox"/> Backup	
<input type="checkbox"/> Menu Setup	
<input type="checkbox"/> Camera Setup	
<input type="checkbox"/> Record Setup	
<input type="checkbox"/> Alarm Setup	
<input type="checkbox"/> Network Setup	
<input type="checkbox"/> Disk Setup	
<input type="checkbox"/> System Setup	
<b>Masking Channels in Playback and Network</b>	
<input type="checkbox"/> CH01	<input type="checkbox"/> CH02
<input type="checkbox"/> CH03	<input type="checkbox"/> CH04
<input type="button" value="OK"/>	



**Add:** Key in the Username and Password. The manager can give authority to the new user by tick at the choice below. (Ex. Ticking at “PTZ” allows the new user to control the PTZ). You can apply the authority setting to the channel you choose. The new user has no authority in those channel that are not selected.

**Modify:** Click **Edit**, then the following window will popup. After inputting Password and Confirm Password, click on **OK**. You can also change the masking channel here.

**Remove:** Click on selected User name on the user list and click on **Remove**.

### C. SYSTEM / SYSTEM UPDATE

#### Firmware Upgrade:

Click on the “Browse” button to select the latest firmware and then press “Upgrade” button to upgrade the firmware.

#### Load Default:

Click “Browse” to choose a file. You can load setup from your computer if you ever clicked “Download” and saved the settings before.

#### ActiveX Updating:

The ActiveX control should be also updated when you update the DVR/NVR firmware. Use the tool in the attached CD to uninstall the old ActiveX control so that the newest version can be registered.

- Automatic Uninstall

Please follow the steps:

1. After updating the DVR/NVR firmware, close the web browser.



2. Run the file "unreg" in the CD to automatically remove the existing ActiveX component "WATCH\_16R" from your PC.

3. Log in the DVR/NVR via web browser again, and the browser will require you to install the new version of ActiveX control.

- Manual Uninstall

If the tool does not work, please follow the steps to uninstall ActiveX control manually.



1. Look for the files "KConfig.ocx" and "WATCH\_16R.ocx" in one of the possible paths:  
"C:\WINDOWS\Downloaded Program Files"  
"C:\WINDOWS\W16R"  
"C:\WINDOWS\system32\WATCH\_16R"
2. "Start" -> "Run" -> Key in: regsvr32(The path of KConfig.ocx) /u -> Click "OK"

Ex.: regsvr32 C:\WINDOWS\system32\WATCH\_16R\KConfig.ocx /u



3. "Start" -> "Run" -> Key in: regsvr32(The path of WATCH\_16R.ocx) /u -> Click "OK"

Ex.: regsvr32 C:\WINDOWS\system32\WATCH\_16R\WATCH\_16R.ocx /u



4. Log in the DVR/NVR via web browser again, and the browser will require you to install the new version of ActiveX control.

## D. NETWORK / IP SETTING

IP Setting	
<b>LAN</b>	
<input type="radio"/> DHCP	
<input checked="" type="radio"/> Static	
IP Address:	192.168.20.226
Subnet Mask:	255.255.255.0
Gateway:	192.168.20.254
DNS 1:	168.95.1.1
DNS 2:	168.95.192.1
Web Page Port:	80
<b>UPNP Port Forwarding</b>	
<input checked="" type="checkbox"/> Enabled	
External HTTP Port:	80
<b>Apply</b>	

### D-1 IP ASSIGNMENT

**DHCP:** In Dynamic Host Configuration Protocol (DHCP) mode, DHCP server will get setting done automatically.

**STATIC IP:** Please input IP address, Subnet Mask, and Gateway based on network environment.

### D-2 UPNP PORT FORWARDING

When a router is used, you can enable this function to allow the user to link the device in the intranet.

## E. NETWORK / PPPoE

PPPoE	
<b>PPPoE Setting</b>	
<input type="radio"/> Enabled	<input checked="" type="radio"/> Disabled
Username:	
Password:	
<b>Send mail after dialed</b>	
<input type="checkbox"/> Enabled	
Subject:	
<b>Apply</b>	

### E-1 PPPoE SETTING

Click on Enabled to enable ADSL dial function.

Username: Username for ADSL account.

Password: Password for ADSL account.

After dialed successfully, new IP address will appear.

### E-2 SEND MAIL AFTER DIALED

Click on Enabled to enable SEND MAIL AFTER DIALED function. You can also give a subject of mail.

## F. NETWORK / DDNS SETTING

**DDNS**

DDNS Setting

☐ Enabled ☒ Disabled

Provider: dyndns.org

Hostname:

Username:

Password:

Schedule Update:  Minutes

State

**Note:**

1. Schedule Update: Feature of DDNS schedule update is designed for IP products which installed behind the ICS or NAT devices. Update range from every 5 (minutes) to 5000 (minutes) and 0 remain to off.
2. Please note that the hostname will be blocked by DynDNS.org if schedule update is more than once every 5 minutes to 60 minutes. In general, schedule update in every 1440 minutes is recommended.

Click on Enabled to enable DDNS function.

### F-1 DYNDNS.ORG

#### DDNS SETTING - DYNDNS.ORG

PROVIDER: Select dyndns.org

HOSTNAME: The registered hostname in DYNDNS.ORG.

USERNAME: The registered username in DYNDNS.ORG.

PASSWORD: The registered password in DYNDNS.ORG.

SCHEDULE UPDATE: A period of time to update IP address.

#### STATE

1. Updating: Information update.
2. Idle: Stop service.
3. DDNS registered successfully, now log by  
<http://<username>.ddns.camddns.com>: Registered successfully.
4. Updating Failed, the name is already registered.
5. Updating Failed, please check your internet connection.

### F-2 DDNS.CAMNND.S.COM

**DDNS**

DDNS Setting

☐ Enabled ☒ Disabled

Provider: ddns.camddns.com

Username:

Password:

Schedule Update:  Minutes

State

Idle

Schedule Update: Feature of DDNS schedule update is designed for IP products which installed behind the ICS or NAT devices. Update range from every 5 (minutes) to 5000 (minutes) and 0 remain to off.

## DDNS SETTING – DDNS.CAMDDNS.COM

PROVIDER: Select ddns.camddns.com

USERNAME: The registered username in DDNS.CAMDDNS.COM.

SCHEDULE UPDATE: A period of time to update IP address.

### STATE

1. Updating: Information update.
2. Idle: Stop service.
3. DDNS registered successfully, now log by  
http://<username>.ddns.camddns.com: Registered successfully.
4. Updating Failed, the name is already registered.
5. Updating Failed, please check your internet connection.

### DDNS Setting Steps:

Press 1 “ENABLE” option to enable DDNS function and select 2

“ddns.camddns.com” of the provider drop down list which is suggested to use. In the following, insert 3 the username which the user wants to apply

(i.e. NVR\_GODDNS in here). After that, click 4 “Apply” button to apply a DDNS domain name.

The screenshot shows the 'DDNS' configuration window. It has a title bar 'DDNS' and a section 'DDNS Setting'. In this section, there are two radio buttons: 'Enabled' (selected) and 'Disabled'. Below them are three fields: 'Provider' with a dropdown menu showing 'ddns.camddns.com', 'Username' with the text 'DVR\_GODDNS', and 'Schedule Update' with the value '60' and the unit 'Minutes'. At the bottom of the window is a 'State' section with a text box showing 'Updating...'. To the right of the 'State' section is an 'Apply' button. Red boxes and numbers are used to highlight specific elements: '1.' points to the 'Enabled' radio button, '2.' points to the 'Provider' dropdown, '3.' points to the 'Username' text box, and '4.' points to the 'Apply' button.

Finally, the NVR domain name 5 ([http://NVR\\_GODDNS.ddns.camddns.com](http://NVR_GODDNS.ddns.camddns.com)) will be shown on the state block.

- NOTE:**
1. If the user selects another provider which is ddns2.ydsNVR.com, all of the setting steps are the same with ddns.camddns.com setting.
  2. However, if dyndns.org provider is selected, please go to [www.dyndns.org](http://www.dyndns.org) website to register the account first. The user has to fill in the username, password and hostname for applying the account. After the user applied the account successfully, the dyndns.org will give the user a complete DDNS domain name.
  3. If setting up IP schedule update too frequently, the IP may be blocked. In general, schedule update every day (1440 minutes) is recommended.

#### G. NETWORK / Mail & FTP

Click on “Motion” or “Alarm” option to enable Mail Setting and FTP Setting function.

**Mail Setting:** Tick “Alarm” to send video to the mail address when external alarm



or DI from IPCam is triggered. Tick “Motion” to send video to the mail address when motion detection is triggered.

**SMTP Port:** The port of SMTP (known as Simple Mail Transfer Protocol). (Default value is 25)

**Username:** The username while log in to the mail server.

**Password:** The password while log in to the mail server.

**Sender’s Mail:** The sender’s account when send the mail via this mail server.

**Receiver’s Mail:** The receiver’s mail address.

**Bcc Mail:** The receiver’s mail address for Bcc Mail.

**Event Subject:** The subject of this mail. (Default value is ALARM MAIL)

**FTP Server:** Tick “Alarm” to upload video to FTP when external alarm or DI from IPCam is triggered. Tick “Motion” to upload video to FTP when motion detection is triggered.

**Username:** The username while log in to the ftp server.

**Password:** The password while log in to the ftp server.

**Port:** The port number of file transmission. (Default value is 21)

**Path:** The ftp path where the user wants to reserve the information.

Finally, click on **Apply** button to reserve the setting.

## H. NETWORK /DHCP Server Setup

Give the IP address to set up the DHCP Server. The IP will change between the Start IP and the End IP.

DHCP Server Setup	
<input type="checkbox"/> Enabled	
Start IP Address:	168.95.1.1
End IP Address:	168.95.1.254
Lease Time:	10
Days:	
<b>Apply</b>	

## I. HTTP Notification

Use the checkbox to enable or disable HTTP Notification. This function allows users to set up the CGI command to a HTTP server. The server can be any device that can receive CGI via HTTP protocol. When alarm events happen, NVR sends CGI to that server.

**HTTP Server:** Key in the server IP address.

**HTTP Port:** Key in the server port used for http protocol.

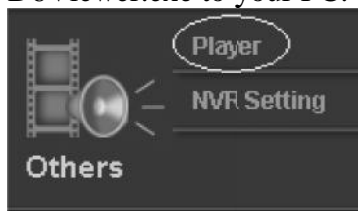
**User Name:** Key in the server username.

**Password:** Key in the server password.

**HTTP CGI:** Key in the CGI that you would like to send to the server when alarm events happen.

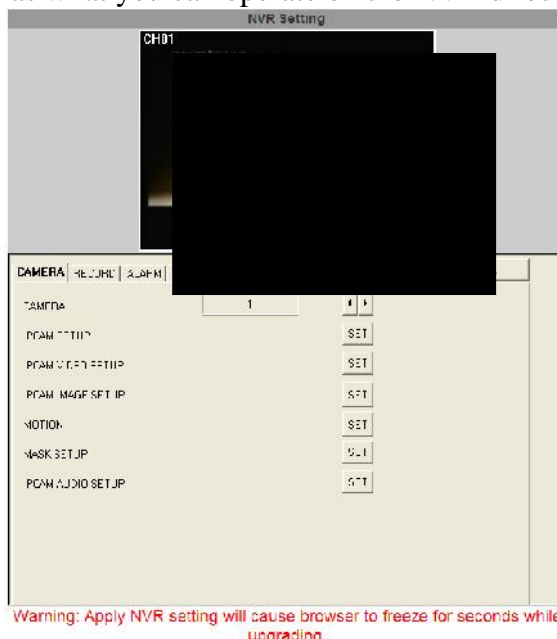
#### J. OTHERS / Player Downloaded

Click “Player” in the left list, and your browser will start up downloading D6Viewer.exe to your PC.



#### K. OTHERS/ NVR Setting

NVR setting can be changed via the Internet. Actually the settings here is the same as what you can operate on the NVR directly.



## K-1 CAMERA Setting

Please refer to [Chapter3.3-Camera Setup.](#)

CAMERA	RECORD	ALARM	DISK	SYSTEM	SAVE
CAMERA	1	◀ ▶			
IPCAM SETUP		SET			
IPCAM VIDEO SETUP		SET			
IPCAM IMAGE SETUP		SET			
MOTION		SET			
MASK SETUP		SET			
IPCAM AUDIO SETUP		SET			

## K-2 RECORD SETTING

Please refer to [Chapter3.4- Record Setup](#)

CAMERA	RECORD	ALARM	DISK	SYSTEM	SAVE
PRE-ALARM RECORDING TIME		10	SEC	◀ ▶	
POST-ALARM RECORDING TIME		10	SEC	◀ ▶	
RECORD MODE		SCHEDULE		◀ ▶	
SCHEDULE SETUP					SET
RECORD		ON	START RECORD		STOP RECORD

## K-3 ALARM SETTING

Please refer to [Chapter3.5-Alarm Setup](#)

CAMERA	RECORD	ALARM	DISK	SYSTEM	SAVE
ALARM TRIGGER SETUP					SET
ALARM OUTPUT SETUP					SET
ALARM EVENT SETUP					SET

## K-4 DISK STEERING

Please refer to [Chapter3.8-Disk Setup](#)

CAMERA	RECORD	ALARM	DISK	SYSTEM	SAVE
OVERWRITE MODE		OFF		◀ ▶	
HARD DISK FULL WARNING		15%		◀ ▶	
AUTO DELETION		ON		◀ ▶	
RESERVE DAY		27		◀ ▶	

## K-5 SYSTEM SETTING

Please refer to [Chapter 3.9-System Setup](#)

CAMERA	RECORD	ALARM	DISK	SYSTEM	SAVE
NVR NAME	NVR-04			SET	
NVR ID	0			◀ ▶	
DATE FORMAT	YYYY-MM-DD			◀ ▶	
Monitor Resolution	1024x768			◀ ▶	
STATUS DISPLAY SETUP				SET	
DAYLIGHT SAVING TIME				SET	

## L. OTHERS / System Log

Click to see the NVR system log.

System Log

No.	Time	Event
1	2013/01/04 18:18:33	Remote login by admin
2	2013/01/04 18:13:47	Remote login by admin
3	2013/01/04 18:13:42	Remote login by
4	2012/12/28 10:43:49	Remote login by admin
5	2012/12/28 10:43:46	Remote login by admin
6	2012/12/28 10:43:33	Remote login by
7	2012/12/24 11:09:25	Remote login by admin
8	2012/12/24 11:09:17	Remote login by admin
9	2012/12/22 17:20:10	Remote login by admin

## APPENDIX A: RECORDING TIME LAPSE (HOURS)

2TB					UNIT : Hours
IMAGE QUALITY (Mbps)	LOW(0.25M)	MEDIUM(0.5M)	STANDARD(1M)	HIGH(1.5M)	
	AVERAGE	AVERAGE	AVERAGE	AVERAGE	
16CH	960	480	240	160	
4TB					UNIT : Hours
IMAGE QUALITY (Mbps)	LOW(0.25M)	MEDIUM (0.5M)	STANDARD (1M)	HIGH (1.5M)	
	AVERAGE	AVERAGE	AVERAGE	AVERAGE	
16CH	1920	960	480	320	
6TB					UNIT : Hours
IMAGE QUALITY (Mbps)	LOW(0.25M)	MEDIUM (0.5M)	STANDARD (1M)	HIGH (1.5M)	
	AVERAGE	AVERAGE	AVERAGE	AVERAGE	
16CH	2880	1440	720	480	
8TB					UNIT : Hours
IMAGE QUALITY (Mbps)	LOW(0.25M)	MEDIUM (0.5M)	STANDARD (1M)	HIGH (1.5M)	
	AVERAGE	AVERAGE	AVERAGE	AVERAGE	
16CH	3840	1920	960	640	

\* The value is for reference only



## APPENDIX B: HDD COMPATIBLE TABLE

Brand	Model	Capacity	others
SEAGATE	ST380815AS	80 GB	7200 10
	ST3160815AS	160 GB	7200 10
	STM3250820AS	250 GB	7200 10
	ST3250310SV	250GB	SV35.3
	ST3400620AS	400 GB	7200 10
	ST3500320SV	500GB	SV35.3
	ST3500410SV	500GB	SV35.5
	ST3500320AS	500GB	7200 11
	ST3500418AS	500GB	7200 12
	ST3500312CS	500GB	Pipeline HD .2
	ST3750640AS	750 GB	7200 10
	ST3750330AS	750 GB	7200 11
	ST31000333AS	1TB	7200 11
	ST31000340AS	1TB	7200 11
	ST31000340NS	1TB	Barracuda ES.2
	ST31000340SV	1TB	SV35.3
	ST31000322CS	1TB	Pipeline HD .2
	ST31000525SV	1TB	SV35.5
	ST31000524AS	1TB <b>SATA3</b>	7200 12
	ST1500DL003	1.5TB <b>SATA3</b>	Barracuda LP
	ST31500341AS	1.5TB	7200 11
	ST32000542AS	2TB	Barracuda LP
	ST3320620AS	320 GB	7200
	ST3500413AS	500GB	7200
	ST3500320NS	500GB	7200
WD	WD1600AAJS	160 GB	7200 CB
	WD2500AAKS	250 GB	7200 CB
	WD2500AVVS	250 GB	7200 GP
	WD3200AVVS-73L2B0	320GB	7200 GP
	WD5000AACS	500 GB	7200 GP
	WD5000AVVS	500 GB	7200 GP
	WD5000AAKS	500GB	7200 CB

	WD5002ABYS	500GB	7200 RE
WD	WD5000AAKX	500GB <a href="#">SATA3</a>	Caviar Blue
	WD5000AUDX	500GB <a href="#">SATA3</a>	Green Power
	WD6400AAKS	640 GB	7200 BLUE
	WD6400AVVS	640 GB	7200 GP
	WD7500AACS	750GB	7200 GP
	WD7500AVVS	750GB	7200 GP
	WD10EACS	1TB	7200 GP
	WD10EADS	1TB	Caviar Green
	WD10EVDS	1TB	Green Power
	WD10EVVS	1TB	7200 GP
	WD10EARS	1TB	Caviar Green
	WD10EALX	1TB <a href="#">SATA3</a>	Caviar Blue
	WD10EURX	1TB <a href="#">SATA3</a>	Green Power
	WD15EADS	1.5TB	7200 GP
	WD15EARS	1.5TB	7200 GP
	WD15EURS	1.5TB	7200 GP
	WD5000AVDS-63U7B0	1.5TB	7200 GP
	WD15EVDS	1.5TB	7200 GP
	WD20EADS	2.0TB	7200 GP
	WD20EVDS-63T3B0	2.0TB	7200 GP
	WD20EARS	2.0TB	Caviar Green
	WD20EURS	2.0TB	7200 GP
	WD30EURS	3TB	CE-GP
	WD30EZRX	3TB	7200
HITACHI	HDS721616PLA380	160 GB	7200
	HDT725025VLA380	250 GB	7200
	HDT725032VLA360	320 GB	7200
	HDP725050GLA360	500 GB	7200
	HCP725050GLA380	500GB	7200
	HDT721010SLA360	1TB	7200
	HDS721010CLA332	1TB	7200
	HDS722020ALA330	2TB	7200
	HDS721050CLA362	500GB	7200

## APPENDIX C: ERROR MESSAGE LIST

ERROR MESSAGE	ERROR STATUS & REASON	NOTE
DISK ACCESS ERROR!	H.D.D. Data structure Un-normal. Data does not record into NVR or bad sector on NVR H.D.D. Please install another H.D.D. and perform the record again.	
UPDATE FILE ERROR!	Please re-download the update file and update again.	
FIRMWARE UPGRADE FAILED	Please reboot the NVR and upgrade the firmware. Please send the NVR back to repair when NVR is disability.	
MEDIA ACCESS FAIL!	The USB file format is incorrect (Please format the pen drive to FAT32) or Pen Drive is setup to ONLY READ mode (Please annul ONLY READ mode) when reserve the data by using Pen Drive. The data cannot be burn into CD/DVD disc. Please change another CD/DVD disc and backup the file in CD/DVD disc storage.	
NO FILE!	There is no upgrade file within Pen Drive or the name of upgrade file does not correspond with NVR format. Please adjust the upgrade file name based on the following information. 16CH -> UpdateN16AF.bin 09CH -> UpdateN09AF.bin 04CH -> UpdateB.bin	
USB DEVICE NOT FOUND NO USB	Pen Drive undetected. Please Unplug the Pen Drive and plug it again.	
BACKUP START TIME ERROR	Backup start time error.	
BACKUPEND TIME ERROR	Backup end time error.	
DISK ERROR	The data cannot be burn into CD/DVD disc. Please change another CD/DVD disc and backup the file.	
FAN FAILED	Fan Error Warning.	
NO LOG DATA	No Events Record.	
SCHEDULE RECORD	The condition is caused by trying to stop recording when perform the schedule record. Please setup the record to manual mode and then stop the record.	
PLEASE SELECT ONE CAMERA	The message will be shown while using the ZOOM function under split screen condition. Please switch the screen into full screen mode and then operate the ZOOM function.	

